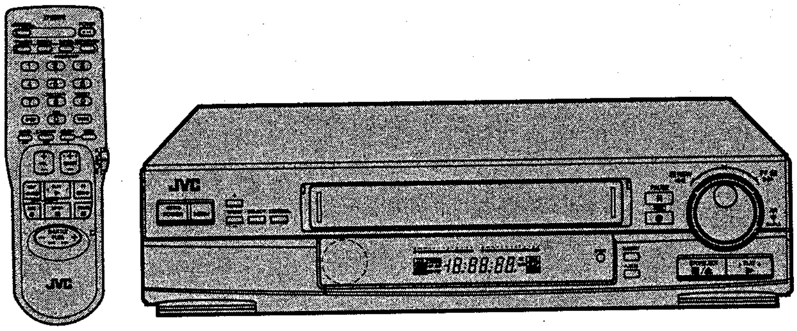
JVC

# SERVICE MANUAL

## VIDEO CASSETTE RECORDER

# HR-S5200U/S7200U



VCR Plus+ C3 w/Cable Channel Changer

Hi-Fi

S-VHS

## SPECIFICATIONS *(The specification shown pertain specifically to the model HR-S5200U)*

### GENERAL

| | |
|---|---|
| Power requirement | AC 120 V∿, 60 Hz |
| Power consumption | 26 W |
| Temperature | |
| Operating | 5°C to 40°C (41°F to 104°F) |
| Storage | –20°C to 60°C (–4°F to 140°F) |
| Operating position | Horizontal only |
| Dimensions (WxHxD) | 400 x 94 x 340 mm<br>(15-3/4" x 3-3/4" x 13-7/16") |
| Weight | 4.5 kg (10.0 lbs) |
| Format | S-VHS/VHS NTSC standard with Hi-Fi audio |
| Maximum recording time (SP) | 160 min. with T-160 video cassette |
| (EP) | 480 min. with T-160 video cassette |

### VIDEO/AUDIO

| | |
|---|---|
| Signal system | NTSC-type color signal and EIA monochrome signal, 525 lines/60 fields |
| Recording/Playback system | DA-4 (Double Azimuth) head helical scan system |
| Signal-to-noise ratio | 45 dB |
| Horizontal resolution | 400 lines (S-VHS)<br>240 lines (VHS) |
| Frequency range | 70 Hz to 10,000 Hz (Normal audio)<br>20 Hz to 20,000 Hz (Hi-Fi audio) |
| Input/Output | RCA connectors (IN x 2, OUT x 1) |

### TUNER

| | |
|---|---|
| Tuning system | Frequency synthesized tuner |
| Channel coverage | |
| (VHF) | Channels 2–13 |
| (UHF) | Channels 14–69 |
| (CATV) | 113 Channels |
| RF output | Channel 3 or 4<br>(switchable; preset to Channel 3 when shipped) 75 ohms, unbalanced |

### TIMER

| | |
|---|---|
| Clock reference | Quartz |
| Program capacity | 1-year programmable timer/<br>8-programs |
| Memory backup time | Approx. 60 min. |

### ACCESSORIES

| | |
|---|---|
| Provided accessories | RF cable (F-type),<br>Infrared remote control unit,<br>"AAA" battery x 2,<br>Cable Box Controller,<br>S-Video cable (4-pin),<br>Audio/Video cable,<br>Mini-plug cable |

Specifications shown are for SP mode unless otherwise specified.
E. & O.E. Design and specifications subject to change without notice.

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# TABLE OF CONTENTS

**Section Title Page**

**Important Safety Precautions**

**INSTRUCTIONS**

## 1. DISASSEMBLY

1.1 DISASSEMBLY FLOW CHART ..... 1-1
1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY ..... 1-1
1.3 DISASSEMBLY/ASSEMBLY METHOD ..... 1-1
1.4 CASSETTE HOUSING INSTALLATION ..... 1-4
1.5 SERVICE POSITION ..... 1-4
1.5.1 How to take out the Mechanism and Main board assemblies ..... 1-4
1.5.2 Caution on cassette loading when mechanism is in service position ..... 1-5
1.5.3 Cassette loading and ejecting procedures when mechanism is in service position ..... 1-5
1.5.4 Opening on the chassis ..... 1-6
1.6 MECHANISM SERVICE MODE ..... 1-7
1.6.1 How to set the "MECHANISM SERVICE MODE" ..... 1-7
1.7 EMERGENCY DISPLAY FUNCTION ..... 1-8
1.7.1 How to display record of an emergency faults ..... 1-8
1.7.2 Detail of emergency faults ..... 1-8
1.7.3 How to clear emergency record ..... 1-8

## 2. MECHANISM ADJUSTMENT

2.1 PREPARATION ..... 2-1
2.1.1 Precautions ..... 2-1
2.1.2 Check without cassette housing assy ..... 2-1
2.1.3 Manual removal of loaded tape ..... 2-1
2.1.4 Test Equipment ..... 2-2
2.2 MAIN MECHANISM PARTS ..... 2-2
2.2.1 Cleaning ..... 2-3
2.2.2 Lubrication ..... 2-3
2.3 INSPECTION AND MAINTENANCE ..... 2-4
2.3.1 *Suggested servicing schedule for main components* ..... 2-4
2.4 DISASSEMBLY/ASSEMBLY PROCEDURE OF MECHANISM ..... 2-4
2.4.1 Precaution before disassembling mechanism ..... 2-4
2.4.2 How to set the exclusive mechanism operation mode (MECHANISM ASSEMBLING MODE) ..... 2-4
2.5 MAIN PARTS REPLACEMENT OF MECHANISM ..... 2-4
2.5.1 Pinch Roller Arm ASSY ..... 2-4
2.5.2 A/C head ..... 2-5
2.5.3 Pinch Plate ..... 2-5
2.5.4 Mode Motor ..... 2-6
2.5.5 Lever Assy, Sub Deck Assy, Capstan Motor ..... 2-6
2.5.6 Control Bracket-1, Earth Plate ..... 2-7
2.5.7 Reel Bracket, Slit deck (take-up) ..... 2-7
2.5.8 Control Bracket-2, Control Plate ..... 2-7
2.5.9 Sub Bracket(take-up), Control Cam ..... 2-8
2.5.10 Slide Plate ..... 2-8
2.5.11 Change Lever, Rotary Encoder ..... 2-8
2.5.12 Sub Brake (supply), Tension Band Assy, Tension Arm Assy, Take-up Lever Assy, Slit Disk (supply) ..... 2-9
2.5.13 Take-up Head, Tension Arm Lever ..... 2-9
2.5.14 Guide Rail ..... 2-10
2.5.15 Stator Assy ..... 2-10
2.5.16 Rotor Assy ..... 2-10
2.5.17 Upper Drum Assy ..... 2-11
2.6 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE 2-12
2.6.1 Precaution ..... 2-12
2.6.2 Loading Arm Assy (supply, take-up) ..... 2-12
2.6.3 Rotary Encoder, Change Lever, Control Cam ..... 2-13
2.6.4 Slide Plate ..... 2-13
2.6.5 Control Plate ..... 2-13
2.7 TAPE INTERCHANGEABILITY ADJUSTMENT ..... 2-14
2.7.1 Tape pattern ..... 2-14
2.7.2 A/C head height & azimuth ..... 2-15
2.7.3 A/C head phase(X-value) ..... 2-16
2.7.4 EP mode auto tracking ..... 2-16
2.7.5 Tension pole position ..... 2-17
2.7.6 Take-up torque ..... 2-17

## 3. ELECTRICAL ADJUSTMENT

3.1 PRECAUTION ..... 3-1
3.1.1 Required test equipment ..... 3-1
3.1.2 Required adjustment tools ..... 3-1
3.1.3 Color bar signal, color bar pattern ..... 3-1
3.2 SWITCHING CIRCUIT ..... 3-2

Section Title Page
3.2.1 5V DC output voltage ..... 3-2
3.3 SERVO CIRCUIT ..... 3-2
3.3.1 PB switching point ..... 3-2
3.3.2 Slow tracking preset ..... 3-2
3.4 VIDEO CIRCUIT ..... 3-3
3.4.1 AGC Y LEVEL ..... 3-3
3.4.2 WHITE/DARK CLIP (S-VHS/VHS) ..... 3-3
3.4.3 SUB EMPHASIS INPUT LEVEL ..... 3-4
3.4.5 SP/EP REC COLOR LEVEL ..... 3-4
3.4.6 S-VHS VIDEO EQ ..... 3-5
3.4.7 AFC CLOCK ..... 3-5
3.5 ON SCREEN CIRCUIT ..... 3-6
3.5.1 Dot clock ..... 3-6
3.6 SYSCON CIRCUIT ..... 3-6
3.6.1 Timer clock ..... 3-6
3.7 AUDIO CIRCUIT ..... 3-6
3.7.1 REC LEVEL CTL ..... 3-7
3.8 TUNER CIRCUIT ..... 3-7
3.9 Y/C SEP CIRCUIT ..... 3-7
3.9.1 *DIGITAL I/O LEVEL* ..... 3-7
3.10 DEMODULATOR CIRCUIT ..... 3-7
3.10.1 Stereo VCO adjustment ..... 3-7
3.10.2 Low pass filter adjustment ..... 3-8
3.10.3 Stereo separation adjustment ..... 3-8

## 4. CHARTS AND DIAGRAMS

SCHEMATIC DIAGRAM NOTE ..... 4-1
CIRCUIT BOARD NOTE ..... 4-2
4.1 BOARD INTERCONNECTIONS ..... 4-3
4.2 SYSCON/SERVO BLOCK DIAGRAM ..... 4-5
4.3 AUDIO BLOCK DIAGRAM ..... 4-7
4.4 VIDEO BLOCK DIAGRAM ..... 4-9
4.5 AUDIO SCHEMATIC DIAGRAM ..... 4-13
4.6 VIDEO SCHEMATIC DIAGRAM ..... 4-15
4.7 SERVO SCHEMATIC DIAGRAM ..... 4-17
4.8 SYSTEM CONTROL SCHEMATIC DIAGRAM ..... 4-19
4.9 VIDEO CPU SCHEMATIC DIAGRAM ..... 4-21
4.10 SWITCHING REGULATOR SCHEMATIC DIAGRAM ..... 4-23
4.11 TUNER SCHEMATIC DIAGRAM ..... 4-25
4.12 MAIN CIRCUIT BOARD ..... 4-29
4.13 VIDEO UNIT SCHEMATIC DIAGRAM ..... 4-31
4.14 VIDEO UNIT CIRCUIT BOARD ..... 4-33
4.15 DEMODULATOR SCHEMATIC DIAGRAM ..... 4-35
4.16 DEMODULATOR CIRCUIT BOARD ..... 4-37
4.17 DISPLAY, SW/JACK, SAFETY AND CASSETTE SW SCHEMATIC DIAGRAMS ..... 4-39
4.18 DISPLAY, SW/JACK, REC SAFETY, CASSETTE SW AND A/C HEAD CIRCUIT BOARDS ..... 4-41
4.19 PRE/REC SCHEMATIC DIAGRAM ..... 4-43
4.20 PRE/REC CIRCUIT BOARD ..... 4-45
4.21 DIGITAL SUB SCHEMATIC DIAGRAM ..... 4-47
4.22 DIGITAL SUB CIRCUIT BOARD ..... 4-49
4.23 Y/C SEPARATOR SCHEMATIC DIAGRAM ..... 4-51
4.24 Y/C SEPARATOR CIRCUIT BOARD ..... 4-53
4.25 CABLE BOX SCHEMATIC DIAGRAM ..... 4-55
4.26 REMOTE CONTROL SCHEMATIC DIAGRAM ..... 4-57

## 5. PARTS LIST

5.1 PACKING AND ACCESSORY ASSEMBLY <M1> ..... 5-1
5.2 CABINET AND CHASSIS ASSEMBLY <M2> ..... 5-2
5.3 MECHANISM <M4> ..... 5-4
5.4 ELECTRICAL PARTS LIST ..... 5-6
MAIN BOARD ASSEMBLY <03> ..... 5-6
VIDEO UNIT BOARD ASSEMBLY <05> ..... 5-13
A/C HEAD BOADR <12> ..... 5-12
DEMOD BOARD ASSEMBLY <14> ..... 5-14
DISPLAY BOARD ASSEMBLY <21> ..... 5-14
REC SAFETY BOARD ASSEMBLY <32> ..... 5-15
CASSETTE SW BOARD ASSEMBLY <33> ..... 5-15
SWITCH/JACK BOARD ASSEMBLY <36> ..... 5-15
PRE/REC BOARD ASSEMBLY <43> ..... 5-15
DIGITAL SUB BOARD ASSEMBLY <49> ..... 5-18
Y/C SEPA BOARD ASSEMBLY <89> ..... 5-18

## 6. TECHNICAL INFORMATION

6.1 SYSCON CIRCUIT ..... 6-1
6.1.1 Syscon CPU pin function (IC601) 1/2 ..... 6-1
6.1.2 Syscon CPU pin function (IC601) 2/2 ..... 6-2

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**The following table lists the differing points between Models (HR-S5200U and HR-S7200U) in this series.**

| | HR-S5200U | HR-S7200U |
|---|---|---|
| DYNAMIC CONTRAST | × | ○ |
| VIDEO STABILIZER | × | ○ |
| SIDE PANEL | × | ○ |

× : NOT USED ○ : USED

# Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

## ● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
   Replace only with specified part numbers.
   **Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.**

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

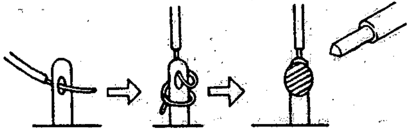


Fig. 1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it.

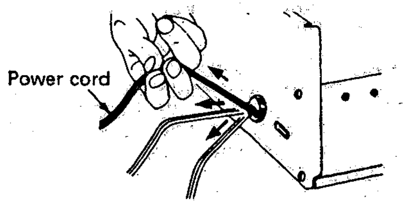


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

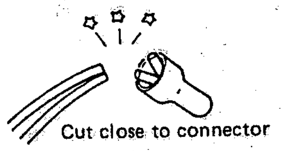


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

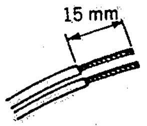


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

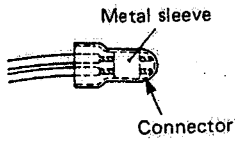


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

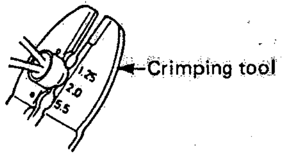


Fig. 6

(5) Check the four points noted in Fig. 7.

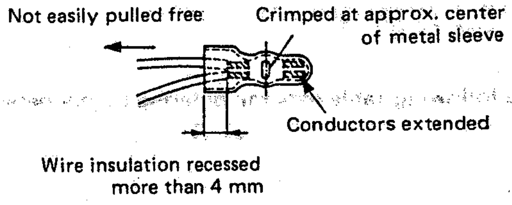

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig. 7

# ● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

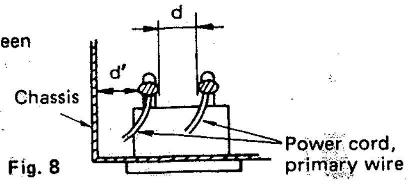


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   **Measuring Method:** (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

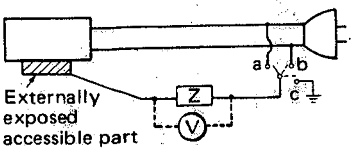


Fig. 9

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   **Measuring Method:**
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

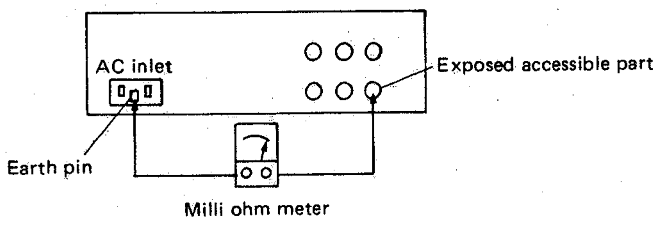


Fig. 10

**Grounding Specifications**

| Region | Grounding Impedance (Z) |
|---|---|
| USA & Canada | Z ≦ 0.1 ohm |
| Europe & Australia | Z ≦ 0.5 ohm |

| AC Line Voltage | Region | Insulation Resistance (R) | Dielectric Strength | Clearance Distance (d), (d') |
|---|---|---|---|---|
| 100 V | Japan | R ≧ 1 MΩ/500 V DC | AC 1 kV 1 minute | d, d' ≧ 3 mm |
| 100 to 240 V | | | AC 1.5 kV 1 minute | d, d' ≧ 4 mm |
| 110 to 130 V | USA & Canada | — | AC 1 kV 1 minute | d, d' ≧ 3.2 mm |
| 110 to 130 V<br>200 to 240 V | Europe & Australia | R ≧ 10 MΩ /500 V DC | AC 3 kV 1 minute (Class II)<br>AC 1.5 kV 1 minute (Class I) | d ≧ 4 mm<br>d' ≧ 8 mm (Power cord)<br>d' ≧ 6 mm (Primary wire) |

Table 1 Specifications for each region

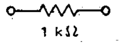
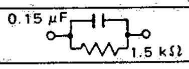
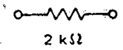
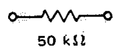
| AC Line Voltage | Region | Load Z | Leakage Current (i) | a, b, c |
|---|---|---|---|---|
| 100 V | Japan |  1 kΩ | i ≦ 1 mA rms | Exposed accessible parts |
| 110 to 130 V | USA & Canada |  0.15 µF 1.5 kΩ | i ≦ 0.5 mA rms | Exposed accessible parts |
| 110 to 130 V<br>220 to 240 V | Europe & Australia |  2 kΩ | i ≦ 0.7 mA peak<br>i ≦ 2 mA dc | Antenna earth terminals |
| | |  50 kΩ | i ≦ 0.7 mA peak<br>i ≦ 2 mA dc | Other terminals |

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

# INSTRUCTIONS

## Safety Precautions

**CAUTION**
RISK OF ELECTRIC SHOCK
DO NOT OPEN

**CAUTION:** TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

### Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

### WARNING:
### TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

**CAUTION:**
This video cassette recorder should be used with AC 120V∿, 60 Hz only.
To prevent electric shocks and fire hazards, do NOT use any other power source.

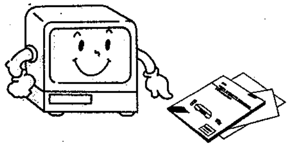
**CAUTION:**
TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

**ATTENTION:**
POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

S-VHS

- Cassettes marked "S-VHS" and "VHS" can be used with this video cassette recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".

**NOTE:**
- When you are not using the video recorder for a long period of time, it is recommended that you disconnect the power cord from the AC outlet.
- Changes or modifications not approved by JVC could void user's authority to operate the equipment.
- The rating plate and the safety caution are on the rear and/or side of the unit.
- Please read the "Precautions" section of this instruction manual and the "Video Products Safety Guide" enclosed with this manual before installing or operating the VCR.
- This instruction manual, and the other reference materials enclosed with it, contain important information on VCR operation and proper usage. Please keep them near your VCR in a place where you can easily access them for reference.
- It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable program and in any literary, dramatic, musical, or artistic work embodied therein.



### How To Use This Instruction Manual

This instruction manual begins with an introductory section, "Getting To Know Your VCR", followed by necessary set-up procedures in "Setting Up Your VCR". The next five sections —"Playback", "Recording", "Timer-Recording with VCR Plus+", "Timer-Recording without VCR Plus+" and "Special Features" — take you step-by-step through these operations of your VCR. "Editing" introduces you to your VCR's editing features. "If You Have Any Questions" is the section you should refer to if you experience any problems in VCR operation or if you need additional information regarding a feature or terminology. At the end of the book you will find "Warranty" information and the locations you can contact "For Servicing".

Throughout the book, if you ever need to refer to another page for instructions or information, you will be told so by a ☞ mark pointing to the page number.

Unless otherwise specified, operation buttons mentioned in the instructions refer to those located on the remote control, not those duplicated on the VCR.

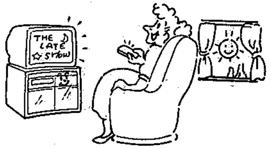
Remember, you must use your VCR correctly to fully enjoy it. Please use this manual effectively. It's the surest and quickest way to unlock the full potential of your new JVC VCR.

VCR Plus+ and PlusCode are trademarks of Gemstar Development Corp. VCR Plus+ system is manufactured under licence from Gemstar Development Corporation.

## Table Of Contents

Some of your VCR's features

**Instant ReView ☞ p. 22**



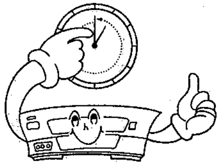
Quick accesss to your recordings! At the touch of a button, this function automatically turns on the VCR, rewinds the tape, searches for the beginning of your recorded program, and starts playback.

**VCR Plus+ Programming ☞ p. 28**

1234
VCR PLUS 1234

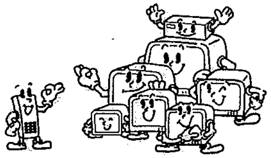
Easy timer programming—just punch-in the code number in your TV listing.

**Auto Daylight Saving Time ☞ p. 11**



Automatic adjustment of the VCR's clock for Daylight Saving Time.

**TV and Cable Box Multi-Brand Remote Control ☞ p. 33**



Compatible with most major brands of televisions and Cable Boxes for basic control functions. Puts an end to two-handed remote control.

**Getting To Know Your VCR**
Front & Back Panel ........ 4
Wireless Remote Control ........ 5
Display Panel & On-Screen Mode Superimpose ...... 6
On-Screen Menus and Displays ........ 7

**Setting Up Your VCR**
Making the right connections ........ 8
Setting your VCR's clock ........ 11
Setting your VCR's tuner
(if you don't use a Cable Box) ........ 12
Setting your VCR's tuner and Cable Box Controller ........ 14
Setting Up the VCR Plus+ feature ........ 17

**▶ Playback** ........ 19
**● Recording** ........ 25
**Timer-Recording with VCR Plus+** ........ 28
**Timer-Recording without VCR Plus+** ........ 30
**Special Features** ........ 33
**▶● Editing** ........ 34

**? If You Have Any Questions**
Before requesting service ........ 38
Notes regarding ........ 40

**Precautions** ........ 41
**About head cleaning** ........ 41
**Specifications** ........ 41

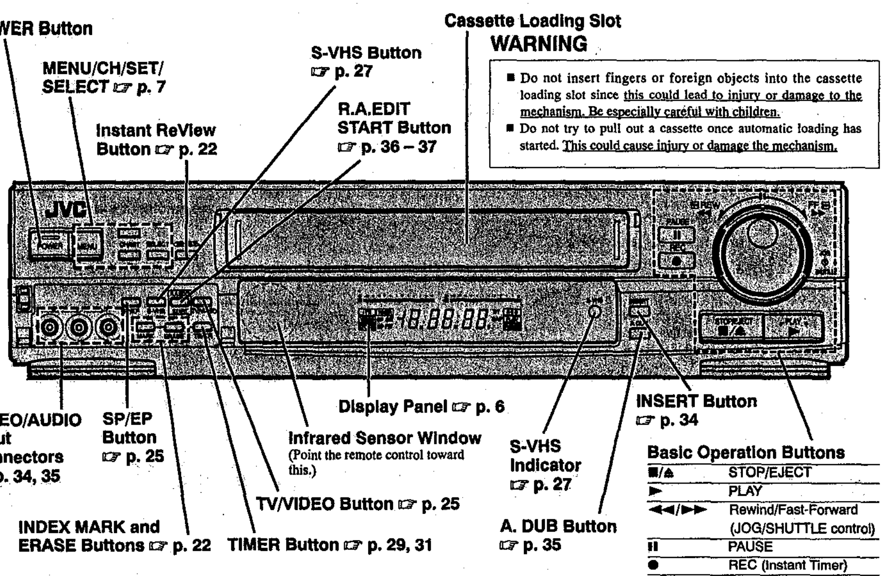
**Operaciones básicas en español** ........ 42

**For Servicing** ........ 44
**Warranty** ........ 45

# Getting To Know Your VCR

## Front Panel

To open the front cover, push the left upper end where labelled "PUSH-OPEN".


POWER Button
MENU/CH/SET/ SELECT ☞ p. 7
Instant ReView Button ☞ p. 22
S-VHS Button ☞ p. 27
R.A.EDIT START Button ☞ p. 36 – 37
Cassette Loading Slot
VIDEO/AUDIO Input Connectors ☞ p. 34, 35
SP/EP Button ☞ p. 25
INDEX MARK and ERASE Buttons ☞ p. 22
TIMER Button ☞ p. 29, 31
TV/VIDEO Button ☞ p. 25
Infrared Sensor Window (Point the remote control toward this.)
Display Panel ☞ p. 6
S-VHS Indicator ☞ p. 27
A. DUB Button ☞ p. 35
INSERT Button ☞ p. 34
Basic Operation Buttons

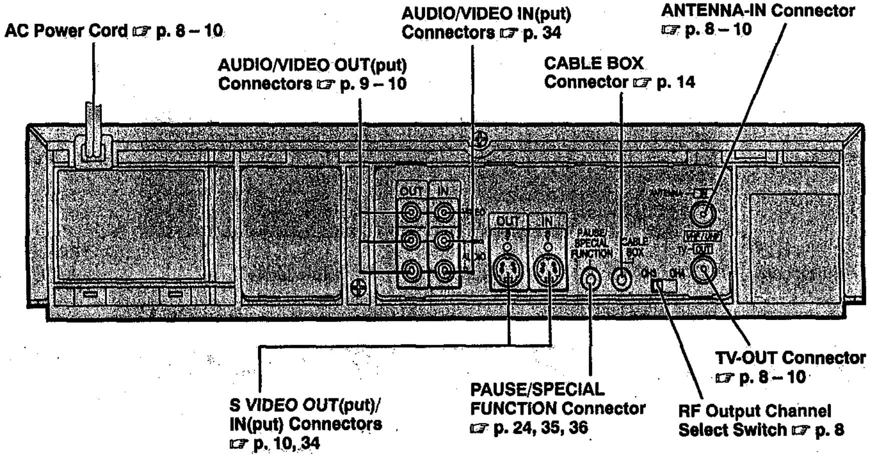
**WARNING**

- Do not insert fingers or foreign objects into the cassette loading slot since this could lead to injury or damage to the mechanism. Be especially careful with children.
- Do not try to pull out a cassette once automatic loading has started. This could cause injury or damage the mechanism.

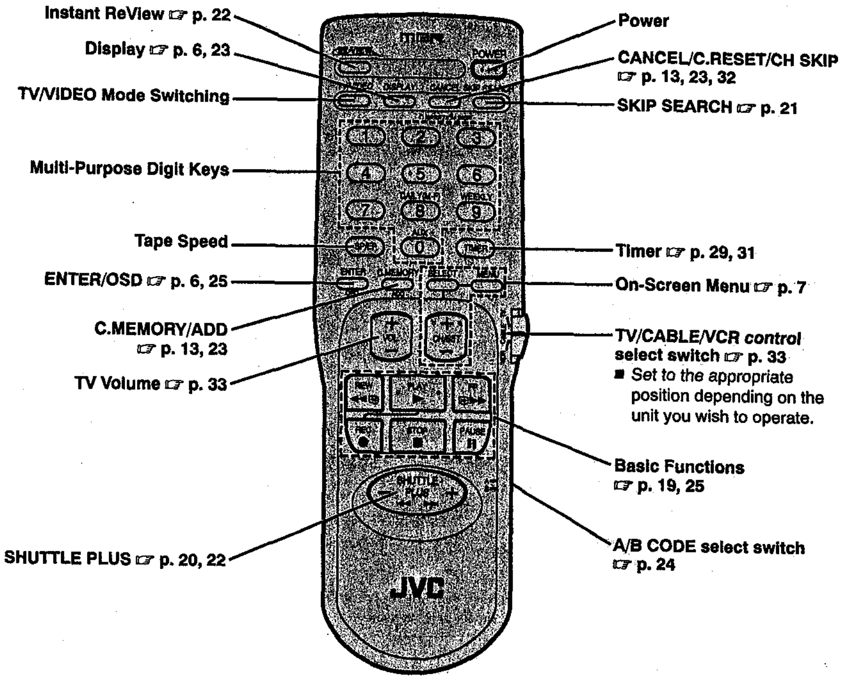
**Basic Operation Buttons**

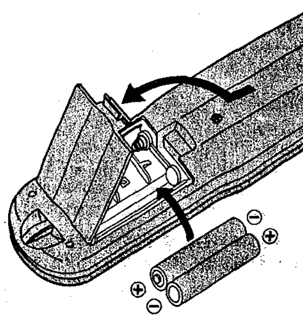
| | |
|---|---|
| ■/⏏ | STOP/EJECT |
| ▶ | PLAY |
| ◀◀/▶▶ | Rewind/Fast-Forward (JOG/SHUTTLE control) |
| ❚❚ | PAUSE |
| ● | REC (Instant Timer) |

## Back Panel


AC Power Cord ☞ p. 8 – 10
AUDIO/VIDEO OUT(put) Connectors ☞ p. 9 – 10
AUDIO/VIDEO IN(put) Connectors ☞ p. 34
CABLE BOX Connector ☞ p. 14
ANTENNA-IN Connector ☞ p. 8 – 10
TV-OUT Connector ☞ p. 8 – 10
RF Output Channel Select Switch ☞ p. 8
PAUSE/SPECIAL FUNCTION Connector ☞ p. 24, 35, 36
S VIDEO OUT(put)/ IN(put) Connectors ☞ p. 10, 34

## Wireless Remote Control


Instant ReView ☞ p. 22
Display ☞ p. 6, 23
TV/VIDEO Mode Switching
Multi-Purpose Digit Keys
Tape Speed
ENTER/OSD ☞ p. 6, 25
C.MEMORY/ADD ☞ p. 13, 23
TV Volume ☞ p. 33
SHUTTLE PLUS ☞ p. 20, 22
Power
CANCEL/C.RESET/CH SKIP ☞ p. 13, 23, 32
SKIP SEARCH ☞ p. 21
Timer ☞ p. 29, 31
On-Screen Menu ☞ p. 7
TV/CABLE/VCR control select switch ☞ p. 33
■ Set to the appropriate position depending on the unit you wish to operate.
Basic Functions ☞ p. 19, 25
A/B CODE select switch ☞ p. 24



### Installing Batteries

1. Slide the battery compartment cover in the direction of the arrow.
2. Insert 2 "AAA"-size batteries (provided) in the correct directions.
3. Replace the cover.

### How To Use

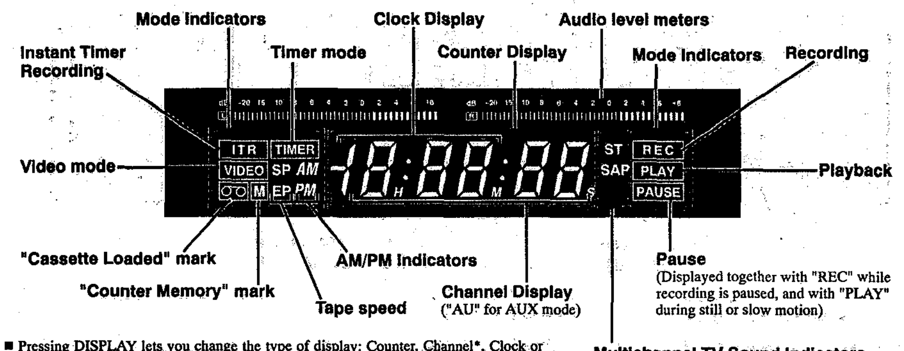
This remote control can operate most of your VCR's functions.
Set the TV/CABLE/VCR switch to the VCR position.

1. Point the remote control toward the VCR's sensor window.
2. Press the appropriate operation button.
   - The maximum operating distance of the remote control is about 8 m (26 ft).

This remote control can also operate various brands of TVs and Cable Boxes. For instructions, ☞ p. 33.

# Getting To Know Your VCR (cont'd)

## Display Panel



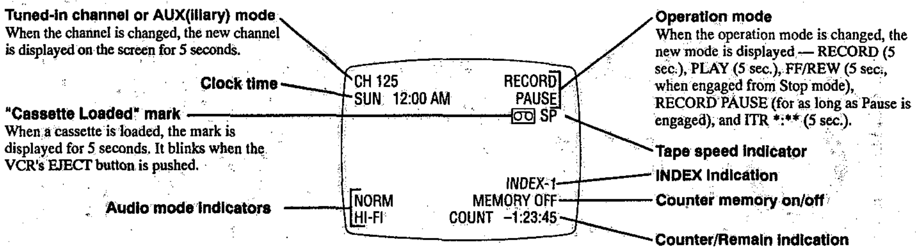
Mode Indicators
Clock Display
Audio level meters
Instant Timer Recording
Timer mode
Counter Display
Mode Indicators
Recording
Video mode
Playback
ITR
TIMER
VIDEO
SP AM
EP PM
M
ST
SAP
REC
PLAY
PAUSE
"Cassette Loaded" mark
"Counter Memory" mark
AM/PM Indicators
Tape speed
Channel Display
("AU" for AUX mode)
Pause
(Displayed together with "REC" while recording is paused, and with "PLAY" during still or slow motion)
Multichannel TV Sound Indicators

- ■ Pressing DISPLAY lets you change the type of display: Counter, Channel*, Clock or Remain.
- ■ Whenever the VCR is turned off, the FDP's brightness is automatically dimmed.

* Channel is not displayed during playback.

## On-Screen Mode Superimpose

■ The superimposed indication on the TV screen tells you what the VCR is doing.



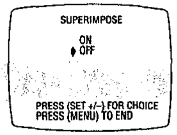
Tuned-in channel or AUX(iliary) mode
When the channel is changed, the new channel is displayed on the screen for 5 seconds.
Clock time
"Cassette Loaded" mark
When a cassette is loaded, the mark is displayed for 5 seconds. It blinks when the VCR's EJECT button is pushed.
Audio mode indicators
CH 125
SUN 12:00 AM
RECORD
PAUSE
SP
INDEX-1
MEMORY OFF
COUNT -1:23:45
NORM
HI-FI
Operation mode
When the operation mode is changed, the new mode is displayed — RECORD (5 sec.), PLAY (5 sec.), FF/REW (5 sec., when engaged from Stop mode), RECORD PAUSE (for as long as Pause is engaged), and ITR *:** (5 sec.).
Tape speed indicator
INDEX indication
Counter memory on/off
Counter/Remain indication

### To recall an indication

1. Press ENTER/OSD.
   - ■ All indications corresponding to the current status are displayed for 5 seconds, leaving the counter information on the screen.
2. Press ENTER/OSD again to clear the display.

### To stop the on-screen indications from being shown

When you do not want to show the indications – for example when you dub a tape to another VCR (using this VCR as the player), set SUPERIMPOSE to OFF.



SUPERIMPOSE
ON
OFF
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END

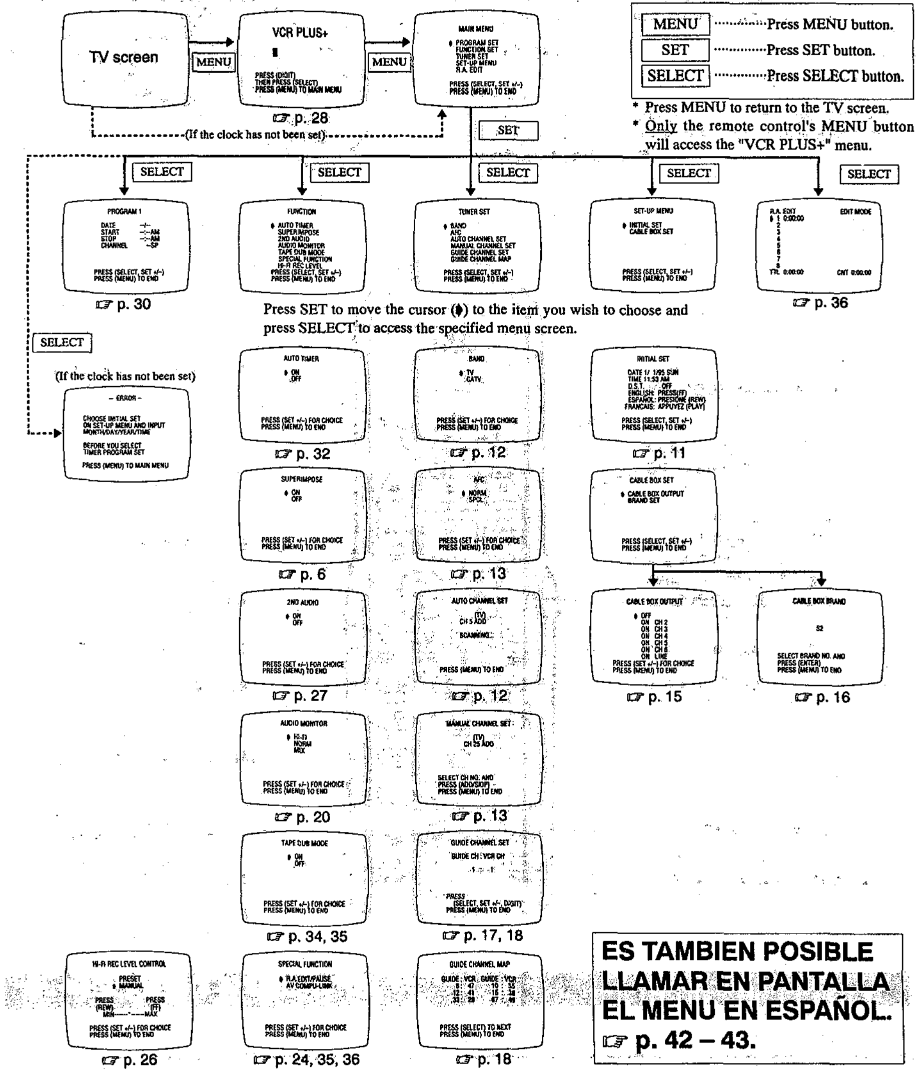
1. Press MENU, SET and SELECT to access the "SUPERIMPOSE" screen. ☞ p. 7
2. Press SET to Choose OFF.
3. Press MENU as many times as necessary to exit.
   - ■ Setting is completed, and a normal TV screen is displayed.

## On-Screen Menus and Displays

■ You can set the clock, tuner, timer, and other functions using the on-screen menu. For this, the MENU, SET+/– and SELECT buttons on the VCR or remote control are used.

MENU ············Press MENU button.
SET ············Press SET button.
SELECT ············Press SELECT button.

* Press MENU to return to the TV screen.
* Only the remote control's MENU button will access the "VCR PLUS+" menu.



TV screen
MENU
VCR PLUS+
PRESS (DIGIT)
THEN PRESS (SELECT)
PRESS (MENU) TO MAIN MENU
☞ p. 28
MENU
MAIN MENU
PROGRAM SET
FUNCTION SET
TUNER SET
SET-UP MENU
R.A. EDIT
PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
(If the clock has not been set)
SET
SELECT
SELECT
SELECT
SELECT
SELECT
PROGRAM 1
DATE -/-
START -:--AM
STOP -:--AM
CHANNEL -SP
PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
☞ p. 30
FUNCTION
AUTO TIMER
SUPERIMPOSE
2ND AUDIO
AUDIO MONITOR
TAPE DUB MODE
SPECIAL FUNCTION
HI-FI REC LEVEL
PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
TUNER SET
BAND
AFC
AUTO CHANNEL SET
MANUAL CHANNEL SET
GUIDE CHANNEL SET
GUIDE CHANNEL MAP
PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
SET-UP MENU
INITIAL SET
CABLE BOX SET
PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
R.A. EDIT
EDIT MODE
1 0:00:00
2
3
4
5
6
7
8
TTL 0:00:00
CNT 0:00:00
☞ p. 36
SELECT
(If the clock has not been set)
– ERROR –
CHOOSE INITIAL SET
ON SET-UP MENU AND INPUT
MONTH/DAY/YEAR/TIME
BEFORE YOU SELECT
TIMER PROGRAM SET
PRESS (MENU) TO MAIN MENU
AUTO TIMER
ON
OFF
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END
☞ p. 32
BAND
TV
CATV
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END
☞ p. 12
INITIAL SET
DATE 1/ 1/95 SUN
TIME 11:53 AM
D.S.T. OFF
ENGLISH: PRESS(FF)
ESPAÑOL: PRESIONE (REW)
FRANCAIS: APPUYEZ (PLAY)
PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
☞ p. 11
SUPERIMPOSE
ON
OFF
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END
☞ p. 6
AFC
NORM
SPCL
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END
☞ p. 13
CABLE BOX SET
CABLE BOX OUTPUT
BRAND SET
PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
2ND AUDIO
ON
OFF
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END
☞ p. 27
AUTO CHANNEL SET
(TV)
CH 5 ADD
SCANNING...
PRESS (MENU) TO END
☞ p. 12
CABLE BOX OUTPUT
OFF
ON CH 2
ON CH 3
ON CH 4
ON CH 5
ON CH 6
ON LINE
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END
☞ p. 15
CABLE BOX BRAND
52
SELECT BRAND NO. AND
PRESS (ENTER)
PRESS (MENU) TO END
☞ p. 16
AUDIO MONITOR
HI-FI
NORM
MIX
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END
☞ p. 20
MANUAL CHANNEL SET
(TV)
CH 25 ADD
SELECT CH NO. AND
PRESS (ADD/SKIP)
PRESS (MENU) TO END
☞ p. 13
TAPE DUB MODE
ON
OFF
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END
☞ p. 34, 35
GUIDE CHANNEL SET
GUIDE CH : VCR CH
1 : 1
PRESS
(SELECT, SET +/–, DIGIT)
PRESS (MENU) TO END
☞ p. 17, 18
HI-FI REC LEVEL CONTROL
PRESET
MANUAL
PRESS (REW)
PRESS (FF)
MIN------*-----MAX
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END
☞ p. 26
SPECIAL FUNCTION
R.A.EDIT/PAUSE
AV COMPU-LINK
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END
☞ p. 24, 35, 36
GUIDE CHANNEL MAP
GUIDE : VCR GUIDE : VCR
PRESS (SELECT) TO NEXT
PRESS (MENU) TO END
☞ p. 18

Press SET to move the cursor (♦) to the item you wish to choose and press SELECT to access the specified menu screen.

**ES TAMBIEN POSIBLE LLAMAR EN PANTALLA EL MENU EN ESPAÑOL.**
**☞ p. 42 – 43.**

# Setting Up Your VCR

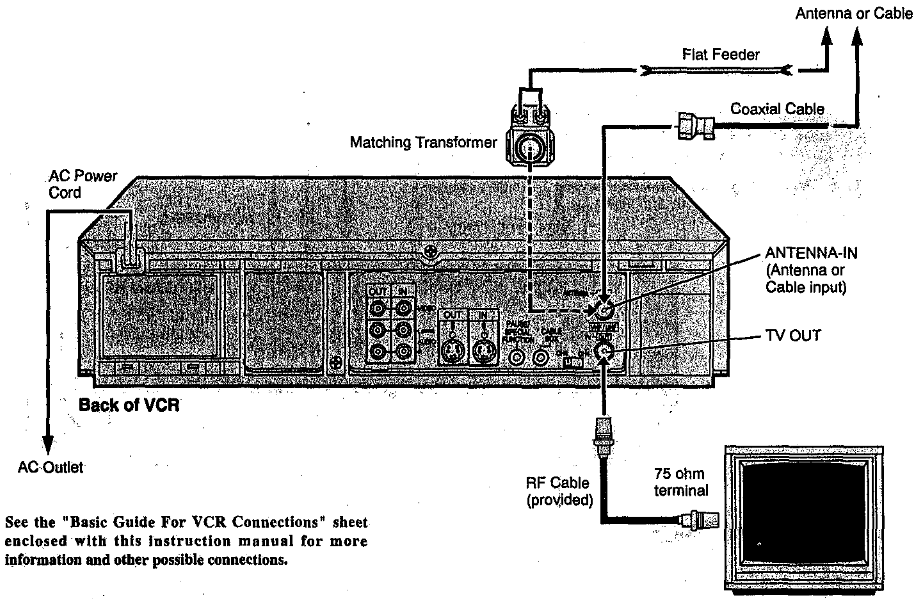
## Making the right connections

It's essential that your VCR be properly hooked up for proper results. Follow these steps carefully. THESE STEPS MUST BE COMPLETED BEFORE ANY VCR OPERATION CAN BE PERFORMED.

### IF YOU HAVE A STANDARD TV SET

**RF CONNECTION**

1. Disconnect the TV antenna from the TV.
2. Connect the TV antenna to the VCR's ANTENNA-IN.
3. Connect the VCR's TV OUT to the TV's antenna terminal using the provided RF cable.

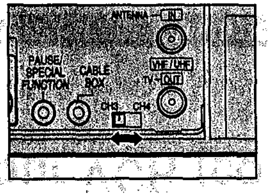

Antenna or Cable
Flat Feeder
Coaxial Cable
Matching Transformer
AC Power Cord
ANTENNA-IN (Antenna or Cable input)
TV OUT
Back of VCR
AC Outlet
RF Cable (provided)
75 ohm terminal

**See the "Basic Guide For VCR Connections" sheet enclosed with this instruction manual for more information and other possible connections.**

### SELECT VCR CHANNEL (3 OR 4)

With a standard RF connection, the VCR sends picture and sound signals through the connecting cable to your TV on channel 3 or 4. The VCR's switch is pre-set to CH3 prior to shipment. Set this switch to CH4 in areas where channel 3 is used for broadcasting.

**Back of VCR**


ANTENNA
IN
PAUSE/ SPECIAL FUNCTION
CABLE BOX
VHF/UHF
TV OUT
CH3
CH4

**NOTES:**

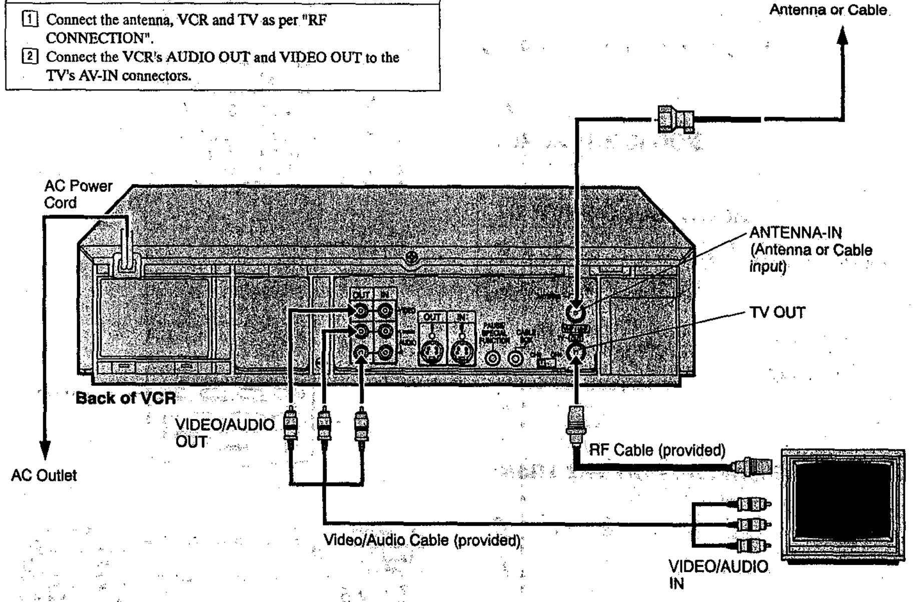
- To operate the VCR with your TV using an RF connection, it is always necessary to set your TV's channel to the one you set the VCR to in this step.
- Even if your TV is connected using AV input connectors, it is necessary to also connect your VCR and TV using the RF cable if you ever wish to watch a program while recording another (☞ p. 25).

## Or...

### IF YOU HAVE A TV SET WITH AV INPUT CONNECTORS

**AV CONNECTION**

1. Connect the antenna, VCR and TV as per "RF CONNECTION".
2. Connect the VCR's AUDIO OUT and VIDEO OUT to the TV's AV-IN connectors.


Antenna or Cable
AC Power Cord
ANTENNA-IN (Antenna or Cable input)
TV OUT
Back of VCR
VIDEO/AUDIO OUT
RF Cable (provided)
AC Outlet
Video/Audio Cable (provided)
VIDEO/AUDIO IN

**ADJUST RF SETTING IF NECESSARY**

Even if your TV is connected to AV input connectors, it is necessary to also connect your VCR and TV using the RF cable if you ever wish to watch a program while recording another (☞ p.25).

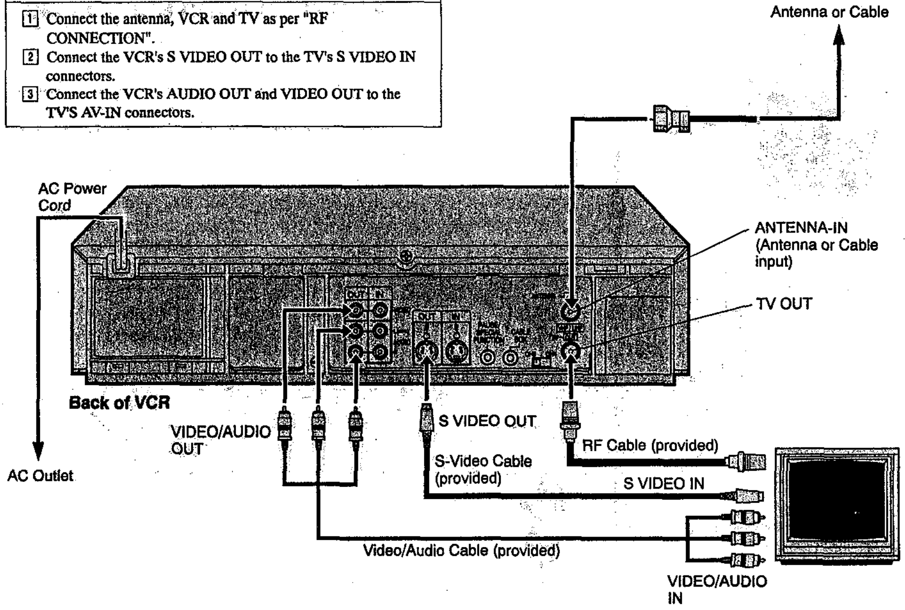
# Setting Up Your VCR (cont'd)

## Or...

## IF YOU HAVE A TV SET WITH S-VIDEO INPUT CONNECTORS

### S-VIDEO CONNECTION

1. Connect the antenna, VCR and TV as per "RF CONNECTION".
2. Connect the VCR's S VIDEO OUT to the TV's S VIDEO IN connectors.
3. Connect the VCR's AUDIO OUT and VIDEO OUT to the TV'S AV-IN connectors.


Antenna or Cable
AC Power Cord
ANTENNA-IN (Antenna or Cable input)
TV OUT
Back of VCR
VIDEO/AUDIO OUT
S VIDEO OUT
RF Cable (provided)
S-Video Cable (provided)
S VIDEO IN
AC Outlet
Video/Audio Cable (provided)
VIDEO/AUDIO IN

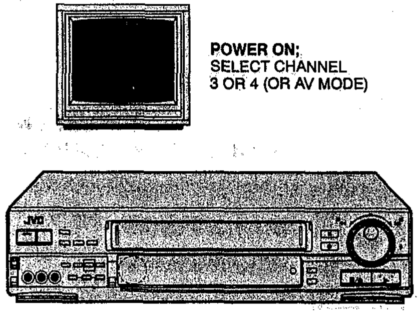
**NOTES:**

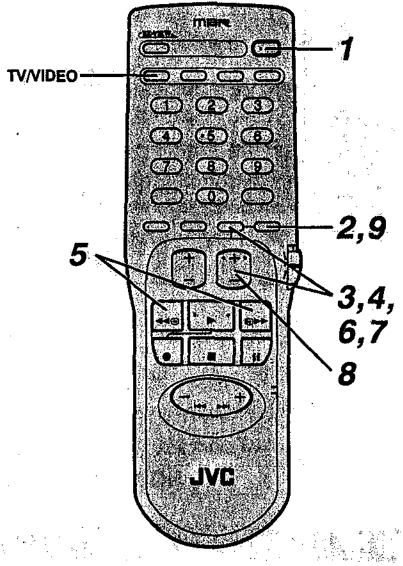
- To make the most of Super VHS picture performance, we recommend you use the S-VIDEO connection.
- To operate the VCR with your TV using the S VIDEO connection, set your TV to the AV mode.

**POR INSTRUCCIONES EN ESPAÑOL VEA p. 42 – 43.**

## Setting your VCR's clock

Since your VCR bases all of its timer recording start and stop "decisions" on the time kept by its built-in clock, accurate setting of this clock is crucial for proper timer-recording results.


POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)


TV/VIDEO
1
2,9
3,4,
6,7
8
5
JVC

You can also use the POWER, MENU, REW, FF, SET and SELECT buttons on the VCR.

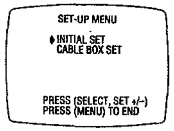
### TURN ON THE VCR

**1** Press POWER.
- If watching on channel 3 or 4, press TV/VIDEO to select the VIDEO mode. The VCR's VIDEO indicator will light.

### ACCESS THE ON-SCREEN MENU

**2** Press MENU.
- The Main Menu screen will appear.
- If the VCR Plus+ screen appears press MENU again.

**3** Press SET to move the cursor to "SET-UP MENU" and then press SELECT.



SET-UP MENU

▶INITIAL SET
CABLE BOX SET

PRESS (SELECT, SET +/–)
PRESS (MENU) TO END

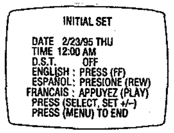
**4** Press SET to move the cursor to "INITIAL SET", and then press SELECT.

**5** You can change the on-screen language. Press REW for Spanish, PLAY for French.
- Press FF to change back to English.

### INPUT THE MONTH/DAY/YEAR/TIME

**6** Press SET to set the month, and then press SELECT.

**7** Repeat step 6 to set the day, year and time (making sure that AM or PM is correct).
- The day of the week will automatically appear.



INITIAL SET

DATE 2/23/95 THU
TIME 12:00 AM
D.S.T. OFF
ENGLISH : PRESS (FF)
ESPAÑOL: PRESIONE (REW)
FRANCAIS : APPUYEZ (PLAY)
PRESS (SELECT, SET +/–)
PRESS (MENU) TO END

### TO USE AUTO D.S.T.

**8** If you want to take advantage of Auto D.S.T. (Daylight Saving Time) (see below), press SET to choose ON.

### TO MAKE CORRECTIONS

Press SELECT so that the item you want to change blinks. Reset that item. Continue to step 9.

### START THE CLOCK

**9** Press MENU.

## Auto Daylight Saving Time

Your VCR is incorporated with the D.S.T. function which automatically adjusts the clock at the start/end of Daylight Saving Time, making manual re-setting unnecessary.

**When D.S.T. is set to ON:**

- On the first Sunday of April, 1 minute after 1:59AM the VCR's clock is adjusted to 3:00AM.
- On the last Sunday of October, 1 minute after 1:59AM the VCR's clock is adjusted to 1:00AM.

- If you live in an area without Daylight Saving Time, keep D.S.T. OFF when setting the clock.

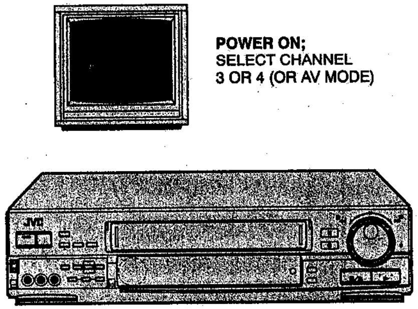
# Setting Up Your VCR (cont'd)

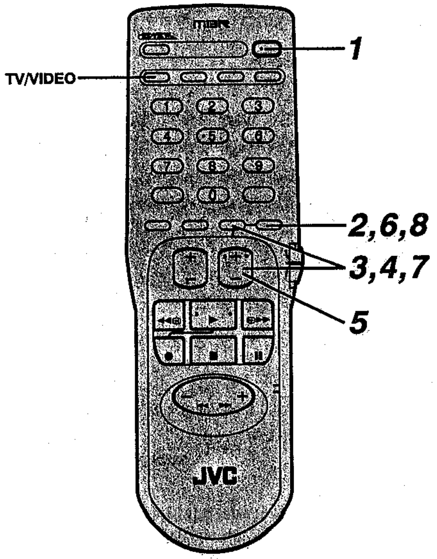
**POR INSTRUCCIONES EN ESPAÑOL VEA p. 42 – 43.**

## Setting your VCR's tuner

**FOLLOW INSTRUCTIONS ON THIS PAGE OR ON P. 14 – 16 DEPENDING ON YOUR CABLE BOX.**

The Auto Set feature introduced here automatically assigns receivable channels in your area to the CHANNEL UP/DOWN buttons and skips the others so you won't have to go through any "blank" channels to get to the one you want.


POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)

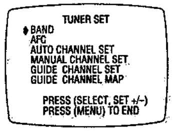

TV/VIDEO
1
2,6,8
3,4,7
5

You can also use the POWER, MENU, SET and SELECT buttons on the VCR.

### TURN ON THE VCR

**1** Press POWER.
- If watching on channel 3 or 4, press TV/VIDEO to select the VIDEO mode. The VCR's VIDEO indicator will light.

### ACCESS THE ON-SCREEN MENU

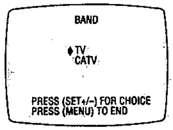

TUNER SET
♦BAND
AFC
AUTO CHANNEL SET
MANUAL CHANNEL SET
GUIDE CHANNEL SET
GUIDE CHANNEL MAP
PRESS (SELECT, SET +/-)
PRESS (MENU) TO END

**2** Press MENU to access the Main Menu screen.
- If the VCR Plus+ screen appears press MENU again.

**3** Press SET to move the cursor to "TUNER SET", and then press SELECT.

**4** Press SET to move the cursor to "BAND", and then press SELECT.

### SELECT THE BAND

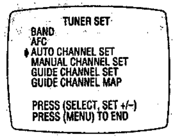

BAND
♦TV
CATV
PRESS (SET+/-) FOR CHOICE
PRESS (MENU) TO END

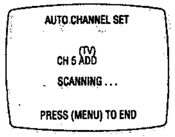
**5** Press SET to choose "TV" or "CATV".
- The BAND select feature has 2 settings (TV and CATV). Set to TV if your antenna provides only UHF and VHF channels. Set to CATV if your antenna system is a cable TV line.

**6** Press MENU.

### START AUTO SET

**7** Press SET to move the cursor to "AUTO CHANNEL SET", and then press SELECT.
- Auto set is in progress and "SCANNING..." is displayed.
- When available channels are scanned, "ADD" will be displayed on the screen.
- When unavailable channels are skipped, "SKIP" will be displayed.
- After completion of auto set, the lowest tuned-in channel number and "SCAN COMPLETED" are displayed.
- If "SCAN COMPLETED — NO SIGNAL —" is displayed, check the band setting and connections, and start again. ☞ p. 8 – 10.

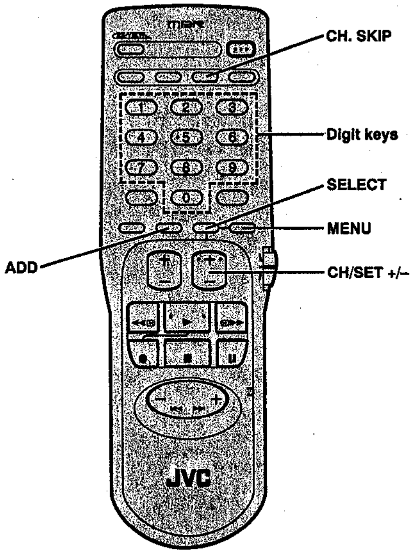

TUNER SET
BAND
AFC
♦AUTO CHANNEL SET
MANUAL CHANNEL SET
GUIDE CHANNEL SET
GUIDE CHANNEL MAP
PRESS (SELECT, SET +/-)
PRESS (MENU) TO END


AUTO CHANNEL SET
(TV)
CH 5 ADD
SCANNING . . .
PRESS (MENU) TO END

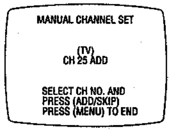
### RETURN TO THE TV SCREEN

**8** Press MENU as many times as necessary to exit.

Now go to ☞ p. 17 "Setting up the VCR Plus+ feature".

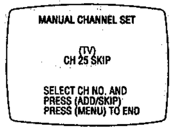

CH. SKIP
Digit keys
SELECT
MENU
CH/SET +/–
ADD

### To add a "skipped" channel to your VCR's tuner


MANUAL CHANNEL SET
(TV)
CH 25 ADD
SELECT CH NO. AND
PRESS (ADD/SKIP)
PRESS (MENU) TO END

1. Press MENU to access the Main Menu screen.
   - If the VCR Plus+ screen appears press MENU again.
2. Press SET to move the cursor to "TUNER SET", and then press SELECT.
3. Press SET to move the cursor to "AFC", and then press SELECT.
4. Press SET to choose "SPCL".
5. Press MENU.
6. Press SET to move the cursor to "MANUAL CHANNEL SET", and then press SELECT.
7. Input the channel number using the Digit keys.
8. Press ADD to store the channel.
9. Specify another channel number or press MENU as many times as necessary to exit.

### To delete an unwanted channel from your VCR's tuner


MANUAL CHANNEL SET
(TV)
CH 25 SKIP
SELECT CH NO. AND
PRESS (ADD/SKIP)
PRESS (MENU) TO END

1. Press MENU to access the Main Menu screen.
   - If the VCR Plus+ screen appears press MENU again.
2. Press SET to move the cursor to "TUNER SET", and then press SELECT.
3. Press SET to move the cursor to "MANUAL CHANNEL SET", and then press SELECT.
4. Input the channel number using the Digit keys or the CH +/– buttons.
5. Press CH. SKIP to delete the channel.
6. Specify another channel number or press MENU as many times as necessary to exit.

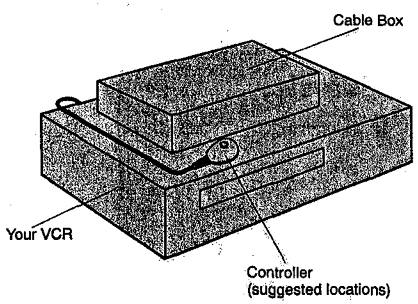
# Setting Up Your VCR (cont'd)

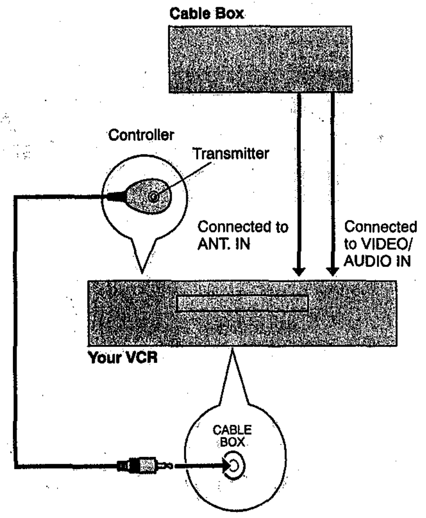
## Setting your VCR's tuner and Cable Box Controller

Follow these steps **if you use an external Cable Box** (descrambler) to receive cable stations. When properly set-up, the Multi-System Cable Box Controller will automatically switch channels on your Cable Box so you can timer-record two or more cable TV stations. It works for Cable TV shows that have been programmed using VCR Plus+ (☞ p. 28) or On-Screen (☞ p. 30) programming.

### Suggested Locations

Attach to top of VCR with Controller's transmitter pointed towards Cable Box's remote sensor window.





### PLACE CONTROLLER IN A GOOD LOCATION

**1** Find a location for the Controller which offers an unobstructed path to the Cable Box's remote sensor window; otherwise the Controller's infrared beam will not be able to reach and control your Cable Box.

**2** Attach the Controller using the supplied adhesive strips.

### CONNECT CABLE BOX TO VCR

**If your Cable Box has VIDEO OUT/AUDIO OUT connectors...**

**3** Connect them to the VIDEO IN and AUDIO IN connectors of your VCR.

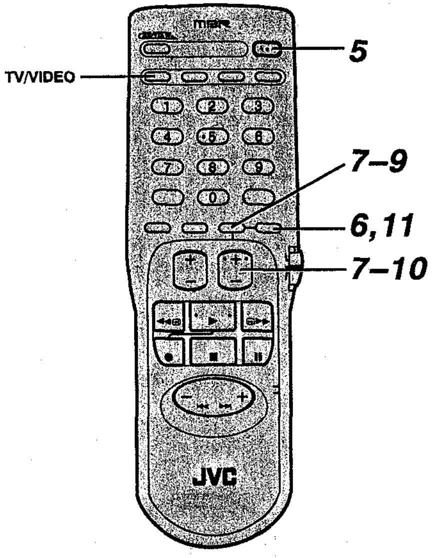
**If your Cable Box does not have VIDEO OUT/AUDIO OUT connectors...**

**3** Connect the Cable Box's antenna output terminal to the ANT. IN (Antenna) terminal of your VCR.
- Refer to the Cable Box's instruction manual for more information.

### CONNECT CONTROLLER TO VCR

**4** Connect the Cable Box Controller to your VCR's CABLE BOX terminal.

**NOTE:**
- About Your Cable Box:
  This VCR has two separate methods to control your Cable Box. The provided Wireless Remote Control Unit can control your Cable Box. The VCR's Cable Box Controller can also control your Cable Box. The former eliminates the need for a separate Cable Box Remote Control Unit. The latter is to change your Cable Box's channel number during timer recordings. Each method must be set up separately. To set up the VCR's Remote Control Unit ☞ p. 33.



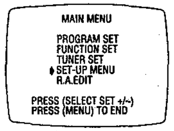
### TURN ON THE VCR

**5** Press POWER.
- If watching on channel 3 or 4, press TV/VIDEO to select the VIDEO mode. The VCR's VIDEO indicator will light.

### SET TO CABLE BOX'S OUTPUT CHANNEL

**6** Press MENU until the Main Menu appears (☞ p.7).

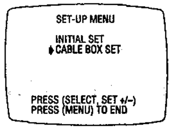
**7** Press SET to move the cursor to SET-UP MENU. Then press SELECT.


MAIN MENU

PROGRAM SET
FUNCTION SET
TUNER SET
♦SET-UP MENU
R.A.EDIT

PRESS (SELECT SET +/–)
PRESS (MENU) TO END

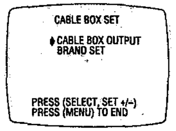
**8** Press SET to move the cursor to CABLE BOX SET.
Then press SELECT.


SET-UP MENU

INITIAL SET
♦CABLE BOX SET

PRESS (SELECT, SET +/–)
PRESS (MENU) TO END

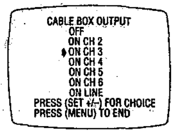
**9** Press SET to move the cursor to CABLE BOX OUTPUT. Then press SELECT.


CABLE BOX SET

♦CABLE BOX OUTPUT
BRAND SET

PRESS (SELECT, SET +/–)
PRESS (MENU) TO END

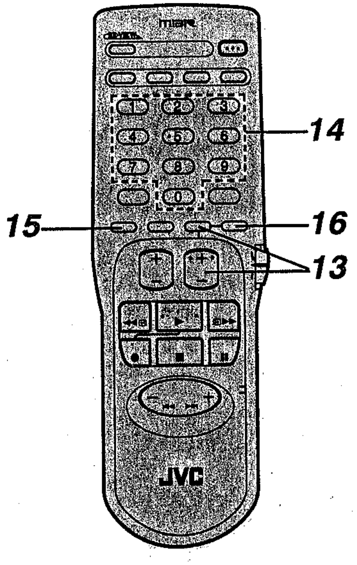
**10** Press SET to choose the output channel number of your Cable Box (channels 2 thru 6) if it's connected to your VCR via RF connection.
- For example, choose "ON CH3" if the Cable Box provides its output on channel 3.
- Choose "ON LINE" if the Cable Box is connected to your VCR's Audio/Video input connectors.


CABLE BOX OUTPUT
OFF
ON CH 2
♦ON CH 3
ON CH 4
ON CH 5
ON CH 6
ON LINE
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END

**11** Press MENU.
- Cable Box Set menu will appear.

(Continued on next page.)

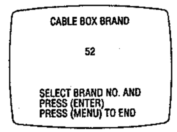
# Setting Up Your VCR (cont'd)



**NOTES:**

- Although the provided Cable Box Controller is compatible with many different cable box brands, it is possible that it will not work with your cable box.
- If your cable box does not respond to any of the codes, your VCR is not able to change its channels during timer recordings. For this type of cable box, always remember to leave it turned on and tuned to the channel you want to record before the timer recording is programmed to start.
  Please contact your cable company about the possibility of exchanging your current cable box with one that is compatible with the VCR.
- The VCR can change the Cable Box channel selection through the Cable Box Controller only during timer recording.
- If your cable box cannot be controlled by a remote control, your VCR will not be able to change its channels during timer recording. For this type of cable box, turn it on and select the channel you want to record before the timer recording is programmed to start.
- If you are unable to set the cable box controller please contact JVC toll free at 1-800-252-5722.

## SET CABLE BOX BRAND


CABLE BOX BRAND

52

SELECT BRAND NO. AND
PRESS (ENTER)
PRESS (MENU) TO END

**12** Turn on the Cable Box's power.
- Select a channel other than 9 on your Cable Box.

**13** Press SET to move the cursor to BRAND SET. Then press SELECT.

**14** Press the Digit keys corresponding to the code number for your Cable Box's brand. (See list below.)

**15** Press ENTER.
- If Cable Box's channel changes to "9", setting is completed.
- If the brand has more than one code number listed, repeat steps 14 –15 until you reach the code that changes your Cable Box's channel.
- Perhaps your cable box will respond to a new code number not yet published in the list. Try entering all code numbers from 1 to 101.

**16** Press MENU as many times as necessary to exit.

- Now go to ☞ p. 17 "Setting up the VCR Plus+ feature".
- To change cable channels or turn on/off your cable box using the VCR's remote control, ☞ p. 33.

**CABLE BOX BRAND LIST**

| BRAND | CODE |
|---|---|
| ARCHER | 52, 53, 54, 85, 86 |
| CABLEVIEW | 85, 86 |
| CITIZEN | 85, 86 |
| CURTIS | 13, 14, 15, 16 |
| DIAMOND | 52, 53, 54 |
| EAGLE | 30, 31, 32, 33, 34, 35, 36, 37 |
| EASTERN | 51 |
| GC BRAND | 85, 86 |
| GEMINI | 55, 56 |
| GENERAL ELECTRIC | 67 |
| GENERAL INSTRUMENTS | 1, 2, 3, 4, 5, 6, 101 |
| HAMLIN | 23, 24 |
| JERROLD | 1, 2, 3, 4, 5, 6, 101 |
| MACOM, HITACHI | 57, 58, 59 |
| MAGNAVOX | 43, 44, 45, 46, 47, 48, 49 |
| MOVIETIME | 71, 72, 73 |
| NSC | 71, 72, 73 |
| OAK | 17, 18, 19, 20, 21, 22 |
| PANASONIC | 25, 26, 27 |
| PHILIPS | 38, 39, 40, 41, 42 |
| PIONEER | 7, 8 |
| PULSER | 85, 86 |

| BRAND | CODE |
|---|---|
| RCA | 25, 26, 27 |
| REGAL | 78, 79, 80 |
| REGENCY | 51 |
| SAMSUNG | 74, 75, 76 |
| SCIENTIFIC ATLANTA | 13, 14, 15, 16 |
| SL MARX | 74, 75, 76 |
| SPRUCER | 25, 26, 27 |
| STARGATE | 74, 75, 76, 85, 86 |
| SYLVANIA | 70 |
| TEKNIKA | 68, 69 |
| TELECAPTION | 100 |
| TELEVIEW | 74, 75, 76 |
| TEXSCAN | 28, 29 |
| TOCOM | 62, 63, 64, 65, 66 |
| UNIKA | 52, 53, 54, 85, 86 |
| UNIVERSAL | 81, 82, 83, 84 |
| VIDEOWAY | 9, 10, 11, 12 |
| VID TECH | 89 |
| VIDTER | 89 |
| VIEWSTAR | 30, 31, 32, 33, 34, 35, 36, 37 |
| ZENITH | 9, 10, 11, 12 |

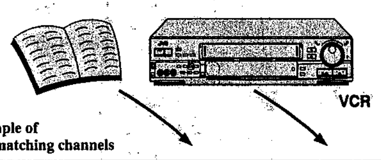
## Setting up the VCR Plus+ feature

Depending on the broadcast stations that are receivable in your area, or the cable stations offered by your cable supplier, you may have to make certain changes in your VCR's "Guide Channel Set" menu to get proper results. Please read on and find out what you need (and don't need) to do.

### Make sure that you have already...

set the VCR's clock
set the VCR's tuner.
set the Cable Box Controller (☞ p. 14) if using a Cable Box.

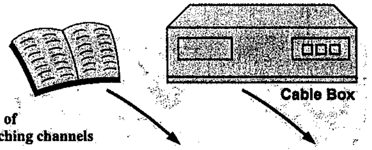
(If NOT using Cable Box)



**Example of non-matching channels**

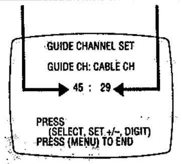
| Broadcast Station | VCR Plus+ Assigned Guide Channel | The channel your VCR receives the station on |
|---|---|---|
| WNYB (TBN) | 67 | 49 |
| WSBK Boston, MA | 15 | 38 |
| WXTV Paterson, NJ | 12 | 41 |
| WNJU (Ind.) | 6 | 47 |
| WEDW Bridgeport, CT | 14 | 49 |
| WLIG Riverhead | 10 | 55 |
| WFXV (FOX) | 33 | 28 |

(If using Cable Box)



**Example of non-matching channels**

| Cable Station | VCR Plus+ Assigned Guide Channel | The channel your Cable Box receives the station on |
|---|---|---|
| WNJU (Ind.) | 6 | 8 |
| WLIW (PBS) | 21 | 34 |
| Music Television | 48 | 20 |
| Cable News Network | 42 | 27 |
| Home Box Office | 33 | 28 |
| Cinemax | 45 | 29 |


GUIDE CHANNEL SET

GUIDE CH: CABLE CH

45 : 29

PRESS
(SELECT, SET +/–, DIGIT)
PRESS (MENU) TO END

Then...

## COMPARE CHANNEL NUMBERS

Most TV listings will have a chart indicating the "Guide Channel" number that each TV station has been assigned for purposes of VCR Plus+ programming. Check in your TV listing and see whether that number is the same as the channel number you receive that station on with your VCR or Cable Box.*

**If the numbers match,** you don't have to do anything. You can go directly to "Timer-Recording with VCR Plus+" p. 28.

**If there are stations where the numbers are different, and you want to be able to timer-record them,** you will have to "tell" the VCR about the mismatch. Go to step 1.

**If there are stations where the numbers are different, but you don't want to timer-record them,** you can go directly to "Timer-Recording with VCR Plus+" p. 28.

## *SPECIAL NOTE FOR CABLE SUBSCRIBERS

- In many instances, cable TV stations have VCR Plus+ Guide Channel numbers that DO NOT match the actual channel number the station is received on. Check your TV listing, or check with your cable supplier for details.
- In many instances, normal broadcast TV stations can be viewed on cable. Check your TV listing, or check with your cable supplier for details.

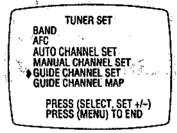
## TURN ON THE VCR

**1** If the VCR is off, press POWER to turn it on.
- If watching on channel 3 or 4, press TV/VIDEO to select the video mode. The VCR's VIDEO indicator will light.

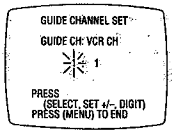
## ACCESS THE ON-SCREEN MENU

**2** Press MENU, SET and SELECT as many times as necessary to access the "TUNER SET" screen. (☞ p.7)

**3** Press SET to move the cursor to "GUIDE CHANNEL SET", and then press SELECT.
- The Guide Channel Set screen will appear.
- If you have set the Cable Box Controller feature CABLE CH is displayed instead of VCR CH.


TUNER SET
BAND
AFC
AUTO CHANNEL SET
MANUAL CHANNEL SET
◆GUIDE CHANNEL SET
GUIDE CHANNEL MAP

PRESS (SELECT, SET +/–)
PRESS (MENU) TO END


GUIDE CHANNEL SET

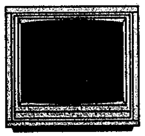
GUIDE CH: VCR CH

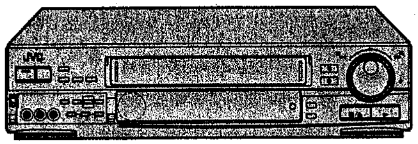
1 1

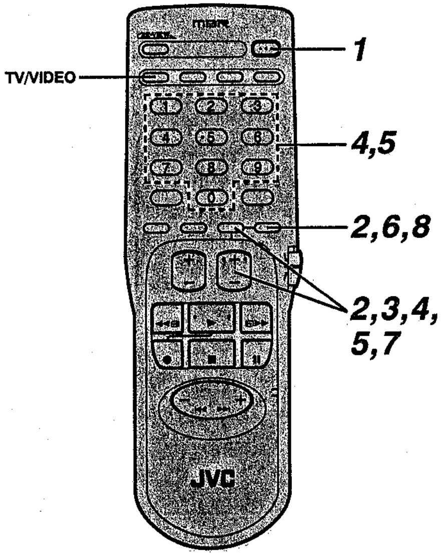
PRESS
(SELECT, SET +/–, DIGIT)
PRESS (MENU) TO END

(Continued on next page.)

# Setting Up Your VCR (cont'd)

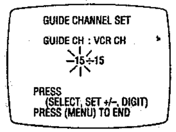

POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)





## INPUT THE GUIDE CHANNEL

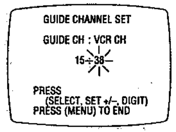
**4** Press SET or the Digit keys to input the Guide Channel number (as shown in TV listing or this manual), and then press SELECT.


GUIDE CHANNEL SET
GUIDE CH : VCR CH
15 : 15
PRESS
(SELECT, SET +/–, DIGIT)
PRESS (MENU) TO END

## INPUT THE RECEIVING CHANNEL

**If you don't use an external Cable Box . . .**

**5** Press SET or the Digit keys to input the channel number your VCR receives the station on, and then press SELECT.
- If there are other GUIDE CH numbers which don't match with the VCR CH numbers, input the changes by repeating steps 4 – 5.


GUIDE CHANNEL SET
GUIDE CH : VCR CH
15 : 38
PRESS
(SELECT, SET +/–, DIGIT)
PRESS (MENU) TO END

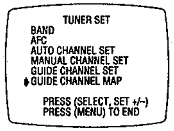
**If you use an external Cable Box . . .**

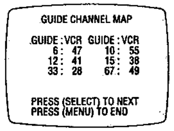
**5** Press SET or the Digit keys to input the channel number your Cable Box receives the station on, and then press SELECT.
- If there are other GUIDE CH numbers which don't match with the CABLE CH numbers, input the changes by repeating steps 4 – 5.

## CHECK THE GUIDE CHANNEL MAP

**6** Press MENU once to go back to the Tuner Set menu.

**7** Press SET to move the cursor to "GUIDE CHANNEL MAP", and then press SELECT.
- A screen with GUIDE CH numbers (in ascending order) with their corresponding VCR CH numbers will be displayed. Check to make sure your entries are correct.
- If there are more than 10 entries, press SELECT to display the 11th and higher entries.


TUNER SET
BAND
AFC
AUTO CHANNEL SET
MANUAL CHANNEL SET
GUIDE CHANNEL SET
▶GUIDE CHANNEL MAP
PRESS (SELECT, SET +/–)
PRESS (MENU) TO END


GUIDE CHANNEL MAP

| GUIDE : VCR | GUIDE : VCR |
|---|---|
| 6 : 47 | 10 : 55 |
| 12 : 41 | 15 : 38 |
| 33 : 28 | 67 : 49 |

PRESS (SELECT) TO NEXT
PRESS (MENU) TO END

## RETURN TO THE TV SCREEN

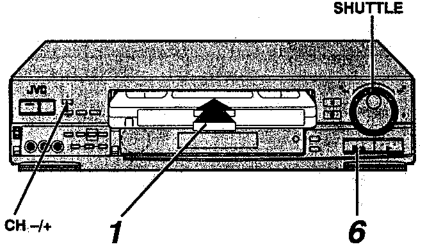
**8** Press MENU as many times as necessary to exit.

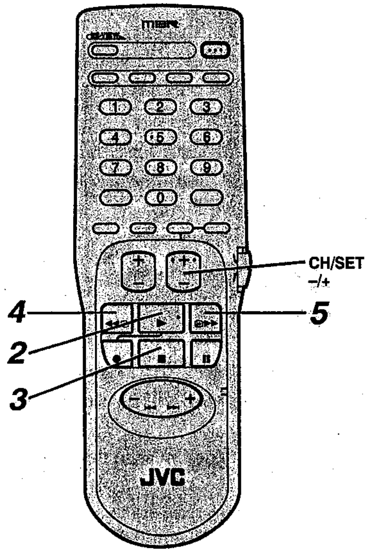
# Playback

**POR INSTRUCCIONES EN ESPAÑOL VEA p. 42 – 43.**

The easiest, most basic operation possible with your VCR is tape playback. Previously-recorded signals on a video tape are read by your VCR and displayed on your TV just like a TV program.

POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)





## LOAD A CASSETTE

**1** Insert a cassette with its window side up, and label side facing you. Press gradually on the middle of the cassette until the VCR pulls the cassette in.
- The VCR power will come on automatically.
- The counter will be reset to "0H 00M 00s" automatically.
- If the safety tab on the cassette is absent, playback will start automatically.

## TO START PLAYBACK

**2** Press PLAY.

## TO STOP PLAYBACK

**3** Press STOP.

## TO REWIND OR FAST-FORWARD

**4** Press REW to rewind the tape.

**5** Press FF to fast-forward the tape.
- Press STOP to stop the tape.
- To rewind or fast-forward the tape using the VCR's control, turn the SHUTTLE ring fully to the corresponding direction, and release it.

## TO EJECT THE TAPE

**6** Press the VCR's STOP/EJECT button again.

## To adjust tracking manually

This overrides your VCR's automatic tracking.

**During Playback...**

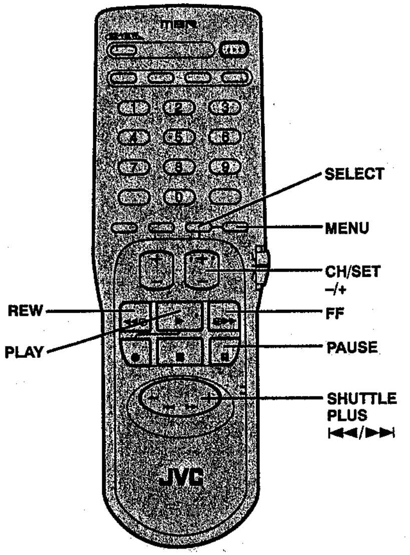
1 Press the VCR's CH(annel) +/– buttons simultaneously to cancel auto tracking.
- The remote control's CH +/– cannot be used for this purpose.

2 Press CH + or – to adjust tracking.
- Press the VCR's CH +/– simultaneously to return to automatic tracking.

**During Slow...**

1 Simply press CH + or – to adjust tracking.

# Playback (cont'd)



## To view a still picture

**During Playback...**

1 Press PAUSE to view a still picture.
- If there is vertical picture jitter, press CH – or + (on the VCR or remote control) to make the picture more stable.

2 To advance the picture frame by frame, press PAUSE again.
- For frame-by-frame playback in the forward or reverse direction, press SHUTTLE PLUS ⏮ or ⏭ in the corresponding direction while in the still picture mode.

3 Press PLAY to resume normal playback.

## To view a slow/fast-motion picture

**During Playback...**

1 Press the SHUTTLE PLUS ⏮ or ⏭ button. Tape speed will change in the corresponding direction.
- To increase the speed, press the button for the same direction.
- To decrease speed, press the button for the opposite direction.
- For forward slow motion playback, press PAUSE for more than 2 seconds while in the still picture mode.

2 Press PLAY to resume normal playback.

## Or...

**During Playback...**

1 Press FF for forward fast-motion, or REW for reverse fast-motion.

2 Press PLAY to resume normal playback.
- For short searches, keep FF or REW pressed for more than 2 seconds. When released, normal playback will continue.

## To select the soundtrack

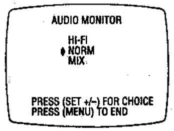
Your VCR is capable of recording two soundtracks (Hi-Fi and NORMAL) simultaneously, and playing back the selected soundtrack or two together.

**During Playback or Stop:**

1 Press MENU, SET, and SELECT as many times as necessary to access the AUDIO MONITOR screen. (☞ p. 7).

2 Press SET to choose "HI-FI", "NORM", or "MIX".
- HI-FI to listen to the Hi-Fi soundtrack.
- NORM to listen to the normal soundtrack.
- MIX to listen to both soundtracks combined. Select this setting when playing back edited tapes with insert edits or dubbed audio made on an appropriately equipped VCR.
- Normal audio will be outputted regardless of the playback audio monitor selection if Hi-Fi audio is not present on the tape.

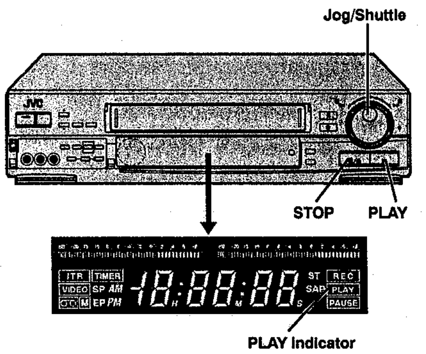
3 Press MENU as many times as necessary to exit.

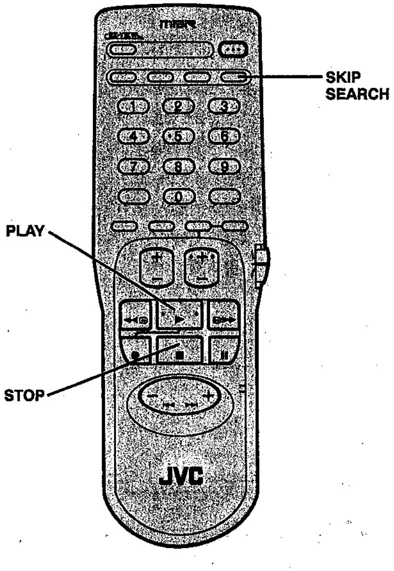


AUDIO MONITOR

HI-FI
♦NORM
MIX

PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END





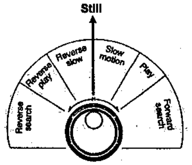
## To view jog/shuttle special effects

You can view pictures in slow to fast motion, or frame-by-frame.

**During Still or Playback...**

1 Turn the outer ring (Shuttle) to the right for forward slow motion and search.
- Release the Shuttle for a still picture.
- For fast-forward with a visible picture, turn the Shuttle all the way to the right and release it within 1 second.

2 Turn the outer ring (Shuttle) to the left for reverse slow motion and search.
- Release the Shuttle for a still picture.
- For rewind with a visible picture, turn the Shuttle all the way to the left and release it within 1 second.



**During Still or Playback...**

1 Rotate the inner dial (Jog) clockwise or counterclockwise for jog control. The tape moves frame-by-frame at the speed with which the dial is rotated, in the direction the dial is rotated. (By rotating the Jog dial counterclockwise at 2 revolutions per second or faster, reverse play is possible.)

To resume normal playback, press the PLAY button.

## Skip Search

To skip over unwanted sections of a recording.

**During Playback...**

1 Press SKIP SEARCH from 1 to 4 times.
This fast-motions through 30-sec. to 2-min. of tape.
- Playback resumes automatically.
- Press PLAY to cancel a Skip Search midway.

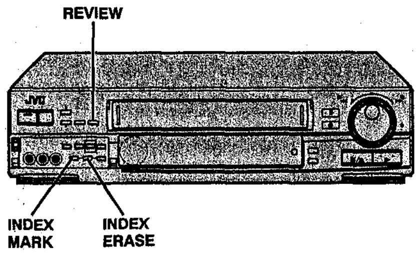
## Repeat Playback

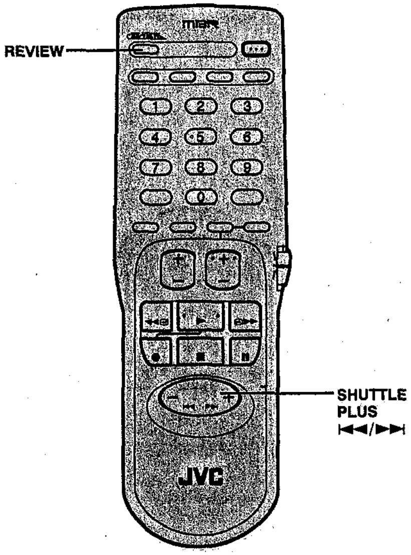
To play the whole tape repeatedly.

**During Playback...**

1 Press PLAY for more than 5 seconds, and release.
- The "PLAY" indicator on the VCR panel will blink slowly.
- The tape will be played 20 times automatically, and then stop.
- To stop repeated playback at any time, press STOP.

# Playback (cont'd)





## Instant ReView

Simply by pressing a single button, the VCR power comes on, rewinds, and begins playback of the last recording. This makes it easier to "review" the program you have timer-recorded.

**When the VCR power is off:**

1 Press REVIEW.
- After the VCR power comes on, the tape will be rewound to the beginning of the last recording (where the index code is placed) and playback will start automatically.
- To play back a recording located 2 index codes away, press REVIEW twice. You can access any one of up to 9 index codes.
- ReView is not possible while the VCR is in the Timer mode.
- The VCR's REVIEW button lights when timer-recording is finished, and blinks while the tape is being rewound.

## Index Search

Index codes are electronic "bookmarks" which are automatically placed on the tape whenever recording is started. Index Search automatically seeks out these index codes so you can easily find the beginning of a recording (up to 9 index codes away in either direction).

**During Stop....**

1 Press SHUTTLE PLUS |◀◀ or ▶▶|. "INDEX –1" or "INDEX 1" will be displayed and search will begin in the corresponding direction.

2 If you wish to access index codes 2 through 9, press SHUTTLE PLUS |◀◀ or ▶▶| repeatedly until the correct index number is displayed.
- When the specified index code is found, playback will start automatically.

## Manual Index Mark/Erase

**TO MARK AN INDEX CODE**

**During Playback...**

1 Press INDEX MARK.
- The VCR will mark an index code at that location.
- "MARK" blinks while an index code is being marked.

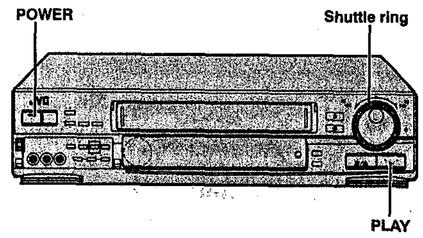
**TO ERASE AN INDEX CODE**

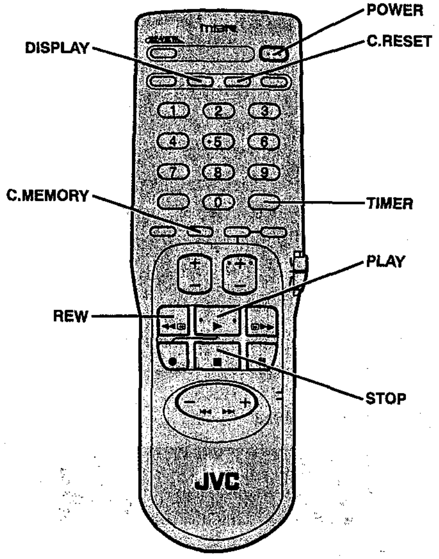
**During Playback or Still...**

1 Press INDEX ERASE.
- The VCR will fast-forward to the nearest index code and erase it. Playback continues after the index code is erased.
- "ERASE" blinks while an index code is being erased.

### NOTES:

- If adjacent index codes are too close to each other, Index Search may not function properly.
- If the cassette's safety tab has been removed, index codes cannot be marked or erased.
- An index code is not placed on the tape when recording is paused and then resumed.





## Counter Reset

To reset the tape counter to zero.

1 Press C. RESET.
- Pressing DISPLAY repeatedly changes the VCR's displayed indication. (Counter reading → Channel* → Clock time → Remain).

*Channel is not displayed during playback.

## Counter Memory

To return to tape position zero.

**During Playback...**

1 Press C. RESET at a point you wish to locate later.
- The counter will read "0H 00M 00S".

2 Press C. MEMORY.
- Counter Memory mark is displayed.

3 When you wish to return to that point, press STOP and then press REW.
- The tape will rewind and stop at about "0H 00M 00S" automatically.

4 To cancel the Counter Memory mode, press C. MEMORY.

## Next-Function Memory

You can "tell" the VCR what to do immediately after rewinding.

**During Stop:**

**For automatic start of playback after the tape is rewound...**

1 Press REW.

2 Press PLAY within 2 seconds.

**For automatic power off after the tape is rewound...**

1 Press REW.

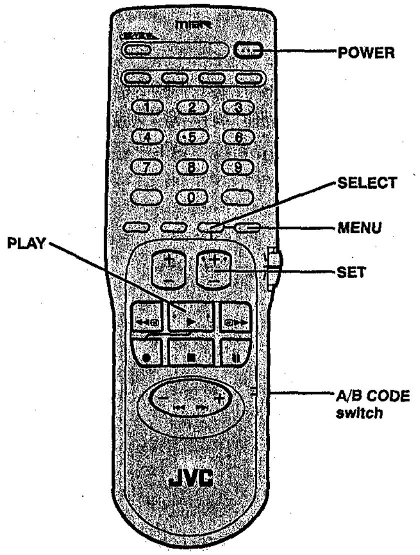
2 Press POWER within 2 seconds.

**For automatic timer standby after the tape is rewound...**

1 Press REW.

2 Press TIMER within 2 seconds.
- **To do the above using the VCR's controls:**
  During Stop, turn the Shuttle all the way to the left and release it instead of pressing REW, and then press PLAY or POWER within 2 seconds.
- If you want the "next function" to automatically start when the counter reads "0H 00M 00S" (instead of at the beginning of the tape), press C. MEMORY so that the counter memory "M" mark appears on the VCR display panel before pressing REW or FF.

# Playback (cont'd)



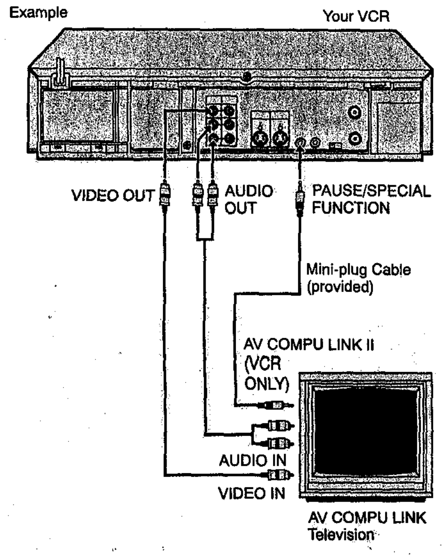
## To control two JVC VCRs

The remote control is capable of controlling two JVC VCRs independently using the A/B CODE switch . You can set this VCR so that it responds to the remote control only when the switch is in the "B" position and set another JVC VCR so that it responds only when the switch is in the "A" position. This way you can control two JVC VCRs independently with a single remote control.

The A/B CODE switch is preset to the "A" position because your VCR is initially set to respond to A code signals. You can easily modify your VCR to respond to B code signals.

1. Unplug the VCR's power cord from the AC outlet.
2. Set the A/B CODE switch on the remote control unit to "B".
3. Plug the VCR's power cord back into the AC outlet. Do not use other remote controls at this stage.
4. Turn the VCR power on using the remote control's POWER button. The VCR will now respond only to B code signals.

Example

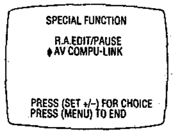


## AV COMPU LINK Playback

Your VCR is compatible with JVC's AV COMPU LINK components which include amplifiers (or receivers) and televisions.

**PREPARATION**

1. Connect your VCR to an AV COMPU LINK amplifier and/or an AV COMPU LINK television as illustrated.
2. Press MENU, SET, and SELECT as many times as necessary to access the SPECIAL FUNCTION screen. (☞ p. 7)
3. Press SET to choose "AV COMPU-LINK".
4. Press MENU as many times as necessary to exit.



SPECIAL FUNCTION

R.A.EDIT/PAUSE
♦AV COMPU-LINK

PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END

**OPERATION**

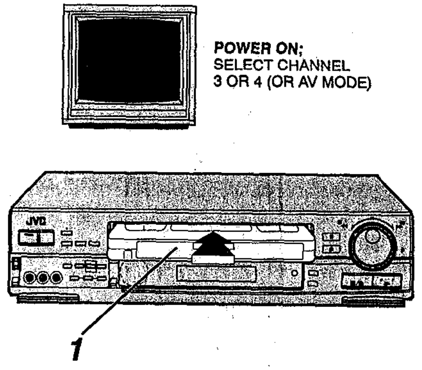
AV COMPU LINK video playback is as easy as this:

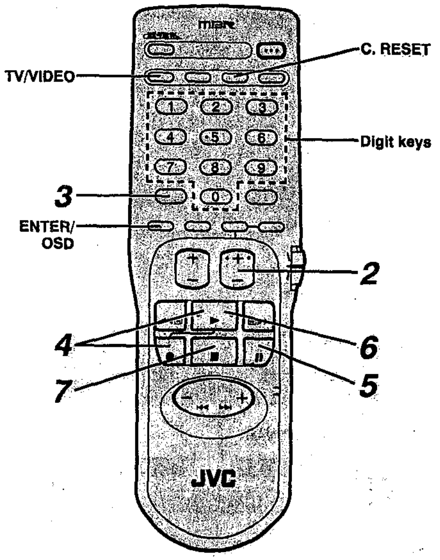
- Simply load a cassette in your VCR and press PLAY. (If the cassette's safety tab has been removed, it is not necessary to press play.) The TV (and amplifier) turn on automatically and the TV's mode is automatically set to VIDEO; you're ready to watch!
- Connection varies according to the type of TV. Please read your TV's instruction manual when making TV connection.

# Recording

POR INSTRUCCIONES EN ESPAÑOL VEA p. 42 – 43.

TV signals being received by the VCR's built-in tuner can be recorded onto a video tape. This is realtime video recording.





### LOAD A CASSETTE

**1** Insert a cassette with the safety tab present.
- The VCR power will come on automatically.
- If watching on channel 3 or 4 be sure that the VIDEO indicator is lit. If the indicator is not lit, press TV/VIDEO so that it lights.

### CHOOSE A PROGRAM

**2** Press CH(annel) +/– (or the digit keys followed by ENTER) to select the channel you wish to record.
- Even if you don't press ENTER, the channel will automatically change in about 2 seconds.

### SET THE TAPE SPEED

**3** Press SP/EP.

### TO START RECORDING

**4** Press REC and PLAY simultaneously.

### TO PAUSE RECORDING

**5** Press PAUSE.

**6** Press PLAY to resume recording.

### TO STOP RECORDING

**7** Press STOP.

## To watch a program while recording another

**During Recording...**

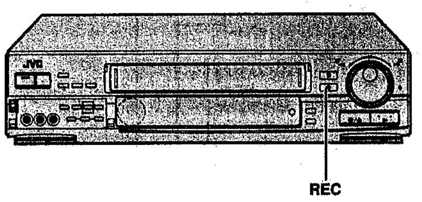
1. Press TV/VIDEO. The VCR's VIDEO indicator and the TV broadcast being recorded will disappear.
2. Use the channel controls on the TV to select the other channel you wish to view.
   - The program selected with the TV channel controls will appear on the TV screen while the one selected with the VCR channel controls will be recorded on the tape.

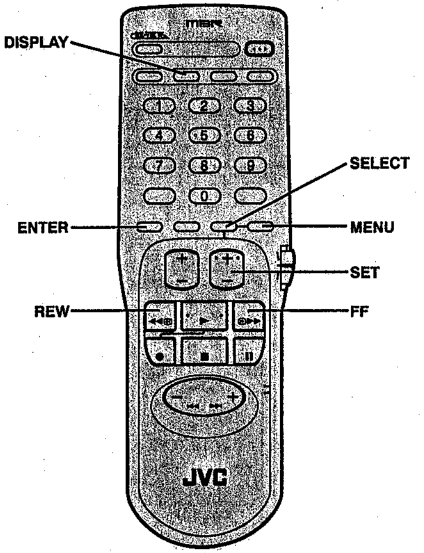
## To display the elapsed recording time

**Before starting recording...**

1. Press C. RESET.
   - The counter will be reset to "0H 00M 00S", and will show the exact elapsed time as the tape runs.
2. After starting recording, press OSD at any time to check the elapsed time on the TV screen.
3. Press OSD again to clear it from the screen.

# Recording (cont'd)

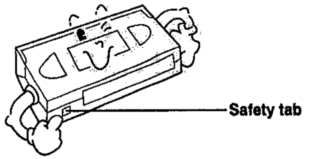




## Accidental erasure prevention

- To prevent accidental recording on a recorded cassette, remove its safety tab.

To record on it later, cover the hole with adhesive tape.

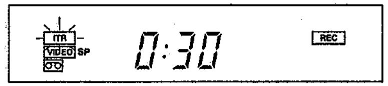


## Instant Timer Recording

To set the VCR to shut-off automatically after recording.

**During Recording...**

1. Press the VCR's REC button. The "ITR" indication blinks and "0:30" appears indicating the recording will continue for 30 minutes and then power will switch off.



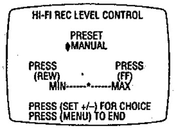
2. Press REC again to extend the record time by 30-minute increments (up to 9 hours).
   - This function is available only using the REC button on the VCR.
   - After the off-time is set, the display returns to the previously displayed mode (counter, channel, clock or remain).
   - You can check the time remaining before the VCR shuts off by pressing REC once; the remaining time is displayed for 5 seconds. (Pressing REC more than once will extend the record time.)

## To display the remaining tape time

1. Press ENTER. Counter information appears on the screen.
2. Press DISPLAY until "REMAIN" appears. Approximate remaining tape time appears on the TV screen and VCR display panel.
   - If recording is in progress, the remaining time display on the VCR changes back to the "REC" mode display after 5 seconds.
   - Pressing DISPLAY repeatedly changes the displayed indication (Counter → Channel → Clock time → Remain).
3. Press ENTER again to clear it from the screen.

## Hi-Fi Audio Recording Level Control

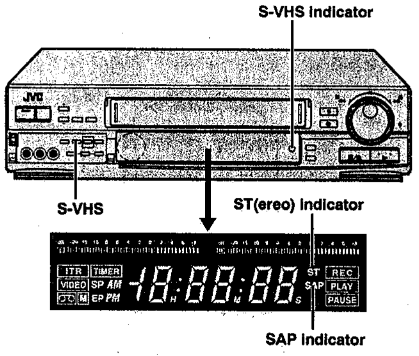
Your VCR allows manual adjustment of the Hi-Fi audio recording level. Although the preset audio recording level is satisfactory for normal recording, if the sound you are going to record is too loud or too low, adjust the audio recording level while referring to the VCR's audio level meters.

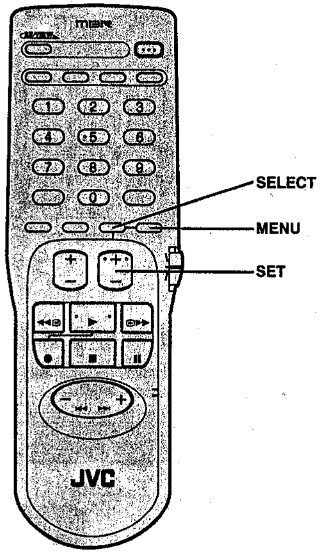


1. Press MENU, SET, and SELECT as many times as necessary to access the HI-FI REC LEVEL CONTROL screen. (☞ p.7)
2. Press SET to choose "MANUAL".
3. Press FF or REW to adjust the audio recording level.
   - To move the on-screen's audio levels by one division of the scale, press FF or REW briefly for 5 times in succession. To move the audio levels faster, keep FF or REW presssed.
   - Adjust the recording level so that the audio level meters reach from 0dB to 4dB at the maximum sound volume.
4. Press MENU as many times as necessary to exit.

**NOTE:**

- Noise will increase if the recording level is too low, while distortion will increase if the level is too high.





## S-VHS (Super VHS) and VHS

Your VCR can record in either S-VHS or VHS.

- To record in S-VHS, insert a cassette marked "S-VHS". The S-VHS indicator will light and the S-VHS recording mode is automatically selected.
- To record in VHS, insert a cassette marked "VHS". The VHS recording mode is automatically selected.
- You can also record in VHS on S-VHS cassettes. To do this, after inserting an S-VHS cassette, press the S-VHS button. The S-VHS indicator will go out.

## Stereo and SAP (Second Audio Program)

Your VCR is equipped with an MTS decoder for reception of Multichannel TV Sound broadcasts.

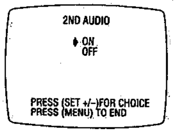
- When a stereo program is being received, the ST indicator lights.
- When an SAP program (such as a bilingual broadcast) is being received, the SAP indicator lights.
- When a stereo program is accompanied by SAP audio, both indicators light.

## To record stereo programs

Stereo programs are automatically recorded in stereo on the Hi-Fi audio track. No special operation is required. Simply follow the basic recording procedure.

- To listen to the stereo soundtrack while recording, set the on-screen AUDIO MONITOR to "HI-FI". ☞ p. 20.

## To record SAP programs



1. Press MENU, SET, and SELECT as many times as necessary to access the 2ND AUDIO screen. (☞ p. 7).
2. Press SET to choose "ON".
3. Press MENU as many times as necessary to exit.

Then follow the basic recording procedure.

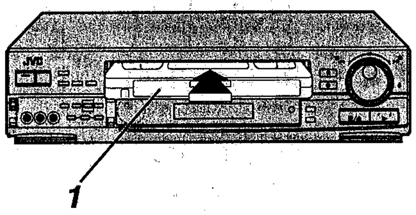
- If an SAP program is received, the SAP audio will be recorded on both the Hi-Fi and the normal audio tracks. The main audio program will not be recorded.
- If a regular program (non-SAP) is received, the main audio will be recorded on both the Hi-Fi and the normal audio tracks.

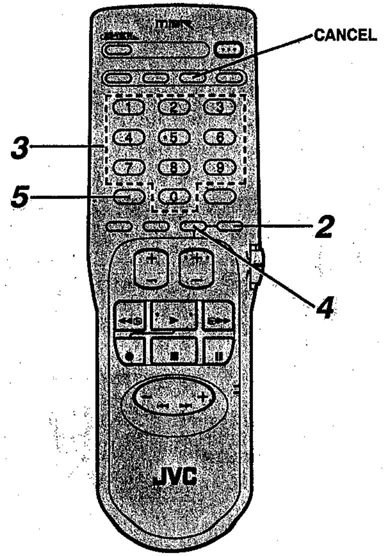
# Timer-Recording with VCR Plus+

Your video recorder is equipped with the VCR Plus+ programming system. This programming system greatly simplifies timer programming because you won't have to enter all the data that is usually necessary (such as date, start and stop time, and channel). Simply key-in the PlusCode number for the TV program you wish to record (in most TV listings) and the VCR's timer is programmed. (For On-Screen Timer Programming without VCR Plus+ ☞ p.30.)

**VCR Plus+ programming is not possible unless you have already....**

set the VCR's clock
set the VCR's tuner
made necessary changes in the Guide Channel Set screen.



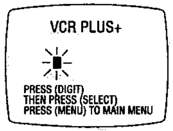


## LOAD A CASSETTE

**1** Insert a cassette with the safety tab present.
- The VCR power will come on automatically.
- If watching on channel 3 or 4 be sure that the VIDEO indicator is lit. If the indicator is not lit press TV/VIDEO so that it lights.

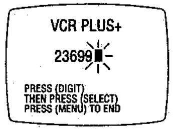
## INPUT THE TV PROGRAM'S CODE NUMBER

**2** Press MENU.
- The "VCR PLUS+" input screen will be displayed.



```
VCR PLUS+

PRESS (DIGIT)
THEN PRESS (SELECT)
PRESS (MENU) TO MAIN MENU
```

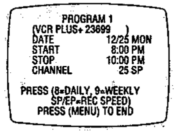
**3** Press the Digit keys to enter the PlusCode number for the TV program you wish to record.
- To make corrections, press CANCEL and re-input with Digit keys.



```
VCR PLUS+
23699
PRESS (DIGIT)
THEN PRESS (SELECT)
PRESS (MENU) TO END
```

## CHECK FOR CORRECTNESS

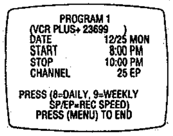
**4** Press SELECT.
- The settings for the PlusCode number you just entered will be displayed.
- If the settings are incorrect and do not match the program you wish to record, press CANCEL and, after pressing MENU three times, re-input the PlusCode.



```
      PROGRAM 1
(VCR PLUS+ 23699    )
DATE          12/25 MON
START           8:00 PM
STOP           10:00 PM
CHANNEL           25 SP

PRESS (8=DAILY, 9=WEEKLY
   SP/EP=REC SPEED)
  PRESS (MENU) TO END
```

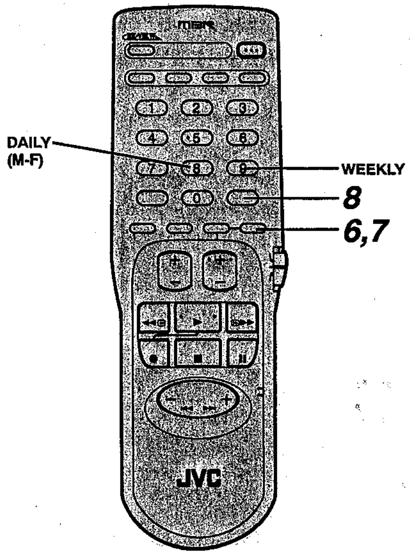
## SELECT THE TAPE SPEED

**5** Press SP/EP.



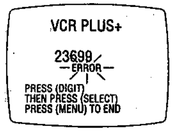
```
      PROGRAM 1
(VCR PLUS+ 23699    )
DATE          12/25 MON
START           8:00 PM
STOP           10:00 PM
CHANNEL           25 EP

PRESS (8=DAILY, 9=WEEKLY
   SP/EP=REC SPEED)
  PRESS (MENU) TO END
```

**(Continued on next page.)**



## "ERROR" WARNING

If the PlusCode you input is incorrect, "ERROR" may appear on the screen to advise you of the error. This happens when the code is for a program which has already passed. "ERROR" is displayed for about 4 seconds and returns to the input screen (step 2).



```
VCR PLUS+

 23699
 ERROR
PRESS (DIGIT)
THEN PRESS (SELECT)
PRESS (MENU) TO END
```

## RETURN TO THE TV SCREEN

**6** Press MENU.
- Select the desired Auto Timer setting. See page 32 for details.

**7** Press MENU again.

## SET TO TIMER MODE

**8** Press TIMER.
- The VCR will enter the timer mode and power will go off.

For AUTO TIMER and other timer programming features, ☞ p. 32.
For other error indications, ☞ p. 39.

## To Timer-Record Daily Serials

This function lets you set the recorder to timer-record at the same time every day, Monday through Friday.
- After pressing SELECT in step 4, press DAILY (Digit key 8). "DAILY" will appear.

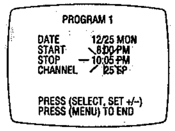
## To Timer-Record Weekly Serials

This function lets you set the recorder to timer-record at the same time on the same day every week.
- After pressing SELECT in step 4, press WEEKLY (Digit key 9). "WEEKLY" will appear.

## TO MAKE CHANGES IN THE SETTINGS

You can delay a program's stop time or make other such "revisions" in the settings.

1. After step 5, press SELECT.
2. Press SELECT to move to the setting you wish to change, so that it blinks.
3. Press SET to make the change.
4. Return to step 6.



```
      PROGRAM 1

DATE       12/25 MON
START        8:00 PM
STOP        10:05 PM
CHANNEL        25 EP

PRESS (SELECT, SET +/-)
PRESS (MENU) TO END
```

## TO DISENGAGE THE TIMER

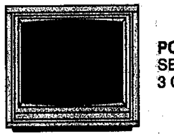
For safety, when AUTO TIMER is "OFF", your VCR disables all other functions while in the timer mode.
- To use your VCR, first disengage the timer mode by pressing TIMER again. Now all functions will be operable.
- To re-engage the timer, press TIMER.

**NOTE:**
If there is a power failure the VCR will remember your timer-record selections for 60 minutes.

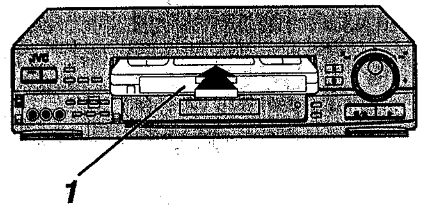
# Timer-Recording without VCR Plus+

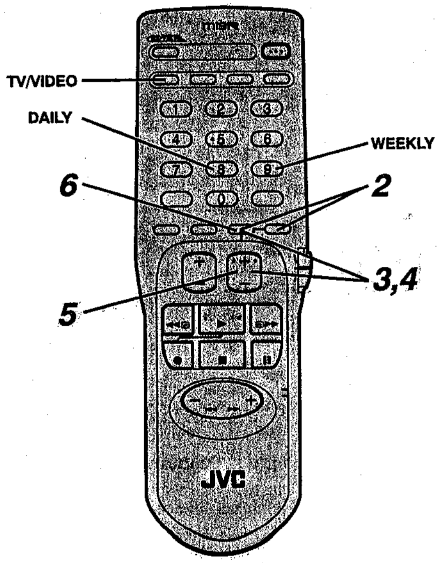
**POR INSTRUCCIONES EN ESPAÑOL VEA p. 42 – 43.**

With the On-Screen Timer Programming function introduced here you can directly program the VCR's timer to record up to 8 TV shows, up to a year ahead. It's especially convenient when you want to timer-record programs while you're away from home for long periods of time (over a week), or for TV programs listed without a PlusCode. TIMER PROGRAMMING IS NOT POSSIBLE UNLESS THE CLOCK HAS BEEN SET.



**POWER ON;**
SELECT CHANNEL
3 OR 4 (OR AV MODE)





You can also use the MENU, SET and SELECT buttons on the VCR.

## LOAD A CASSETTE

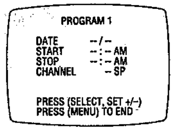
**1** Insert a cassette with the safety tab present.
- The VCR power will come on automatically. If watching on channel 3 or 4 be sure that the VIDEO indicator is lit. If the indicator is not lit, press TV/VIDEO so that it lights.
- If the clock has not been set, set the clock before starting step 2. ☞ p. 11

## ACCESS THE ON-SCREEN MENU

**2** Press MENU twice and then press SELECT.
- The Program Set screen will appear.

## SELECT A PROGRAM NUMBER

**3** Press SET to move to a vacant program number, and then press SELECT.
- Initially all programs are vacant, and the cursor is at program 1. So simply press SELECT.



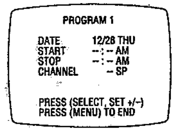
```
PROGRAM 1

DATE       --/--
START      --:-- AM
STOP       --:-- AM
CHANNEL       -- SP

PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
```

## INPUT THE DATE

**4** Press SET to set the month, and then press SELECT.

**5** Press SET to set the day.
- The day of the week will automatically appear.
- To record the program daily (Mon-Fri) press DAILY (Digit key 8). To record the program weekly press WEEKLY (Digit key 9). "DAILY" or "WEEKLY" will appear on the screen.

**6** Press SELECT.

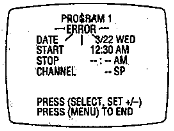


```
PROGRAM 1

DATE       12/28 THU
START      --:-- AM
STOP       --:-- AM
CHANNEL       -- SP

PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
```

(Continued on next page.)

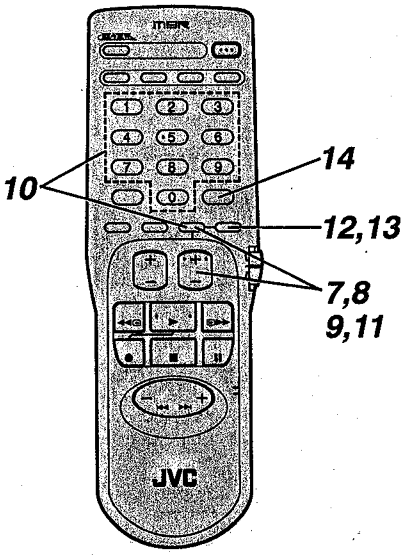
## "ERROR" WARNING

If the start time you input has already passed (i.e. is prior to the present date and time), the VCR will flash "ERROR" on the Program Set screen.



```
PROGRAM 1
— ERROR —
DATE         3/22 WED
START        12:30 AM
STOP         --:-- AM
CHANNEL         -- SP

PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
```

Check if you've input the correct time and date. Remember: late night shows beginning at midnight or later must have the next day's date.



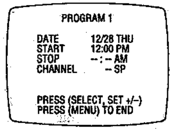
## TO DISENGAGE THE TIMER

For safety, when AUTO TIMER is "OFF", your VCR disables all other functions while in the timer mode.
- To use your VCR, first disengage the timer mode by pressing TIMER again. Now all functions will be operable.
- To re-engage the timer, press TIMER.

## INPUT THE START TIME

**7** Press SET to set the hour (making sure that AM or PM is correct), and then press SELECT.

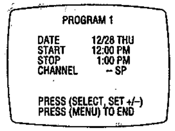
**8** Press SET to set the minutes, and then press SELECT.



```
PROGRAM 1

DATE       12/28 THU
START      12:00 PM
STOP       --:-- AM
CHANNEL       -- SP

PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
```

## INPUT THE STOP TIME

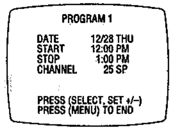
**9** Set the stop time in the same way as you set the start time in steps 7 – 8.



```
PROGRAM 1

DATE       12/28 THU
START      12:00 PM
STOP        1:00 PM
CHANNEL       -- SP

PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
```

## INPUT THE CHANNEL NUMBER

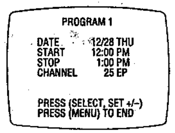
**10** Press the Digit keys to enter the channel number, and then press SELECT.



```
PROGRAM 1

DATE       12/28 THU
START      12:00 PM
STOP        1:00 PM
CHANNEL       25 SP

PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
```

## SET THE TAPE SPEED

**11** Press SET to choose SP or EP, and then press SELECT.
- To input another program, repeat steps 3 – 11. (You can set up to a maximum of 8 programs.)



```
PROGRAM 1

DATE       12/28 THU
START      12:00 PM
STOP        1:00 PM
CHANNEL       25 EP

PRESS (SELECT, SET +/–)
PRESS (MENU) TO END
```

## RETURN TO THE TV SCREEN

**12** Press MENU.
- Select the desired Auto Timer setting. See page 32 for details.

**13** Press MENU again.

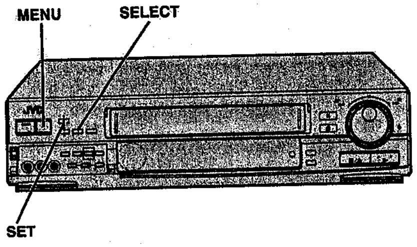
## SET TO TIMER MODE

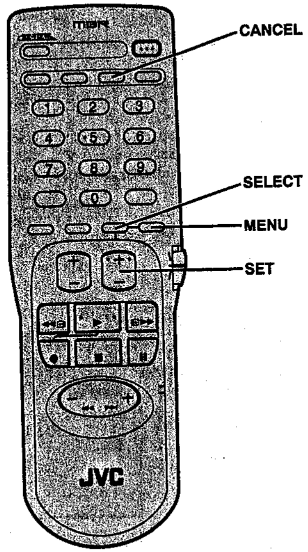
**14** Press TIMER.
- The VCR will enter the timer mode and power will go off.

For AUTO TIMER and other timer programming features, ☞ p. 32.
For other error indications, ☞ p. 39.

**NOTES:**
- If there is a power failure, the VCR will remember your timer-record selections for 60 minutes.
- When timer-recording cable channels received through a Converter Box, be sure to keep the Converter Box set to ON.

# Timer-Recording (cont'd)

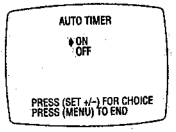




## Auto Timer

**What this feature does:** Usually, the timer mode is not engaged unless the TIMER button is pressed. But with AUTO TIMER set to ON, the timer mode is automatically engaged when the VCR's power is turned off, and is disengaged whenever VCR power is turned on again.

1 After step 6 (☞ p. 29) or step 12 (☞ p. 31), press SET to choose "ON", and press MENU.


AUTO TIMER
▶ON
OFF
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END

Or...

1 Press MENU, SET, and SELECT as many times as necessary to access the AUTO TIMER screen. (☞ p. 7)
2 Press SET to choose "ON".
3 Press MENU as many times as necessary to exit.

## To check and cancel programs

**Make sure the timer mode is disengaged first. Then...**

1 Press MENU and then press SELECT (to access the Program Set screen).
2 Press SET to check through the programs in succession.

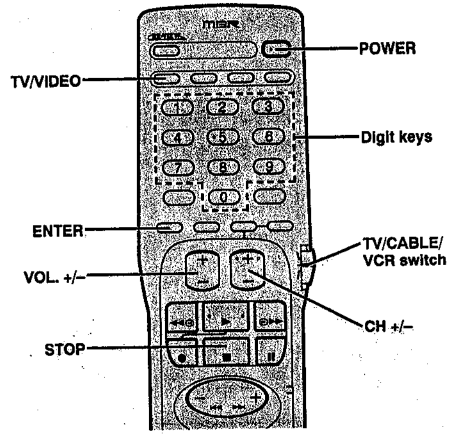
**To cancel the program...**

3 Press CANCEL.
- Repeat steps 2 and 3 as necessary.

4 Press MENU as many times as necessary to exit.

# Special Features

The provided remote control is capable of controlling 10 different TV brands including JVC and 13 different Cable Box brands. Follow the instructions below to set the appropriate code for your TV or Cable Box.



## TV Brand Name And Code

| TV BRAND NAME | BRAND CODE |
|---|---|
| JVC | 01 |
| MAGNAVOX | 02 |
| MITSUBISHI | 03 |
| PANASONIC | 04 |
| RCA | 05 |
| SHARP | 06 |
| SONY | 07 |
| TOSHIBA | 08 |
| ZENITH | 09 |
| HITACHI | 10 |

## Cable Box Brand Name And Code

| CABLE BOX BRAND NAME | BRAND CODE |
|---|---|
| GI | 01,02,03,04,05,06,07,08 |
| JERROLD | 01,02,03,04,05,06,07,08 |
| SCIENTIFIC ATLANTA | 09,10 |
| ZENITH | 11,12 |
| PIONEER | 13,14 |
| HAMLIN | 15,16,17,18 |
| REGAL | 15,16,17,18 |
| OAK | 19,20,21 |
| SIGMA | 19,20,21 |
| TOCOM | 22,23 |
| RCA | 24,25,26 |
| PANASONIC | 24,25,26 |
| SPRUCER | 24,25,26 |

## TV Multi-Brand Remote Control

If your TV is a JVC, you don't have to set the TV code.

**PREPARATION**

1 Turn the TV's power OFF using the TV's remote control.
2 Set the remote control's TV/CABLE/VCR switch to "TV".
3 While holding down the POWER button, enter your TV's brand code with the Digit Keys then press STOP.
- Brand setting is completed. Once you set the brand, you do not have to reset it until the remote's batteries are replaced.
- If you set the wrong code, re-enter the right code.

4 Press POWER to turn the TV power on and check to see if the remote control works with the TV.

**OPERATION**

1 Set the remote control's TV/CABLE/VCR switch to "TV".
2 Operate the TV.
- POWER, TV/VIDEO, CH +/-, VOL. +/- buttons and Digit keys are available.

3 To operate VCR, set the TV/CABLE/VCR switch to "VCR".

## Cable Box Multi-Brand Remote Control

Some Cable Box brands have more than one code. When your Cable Box does not function with a specified code, try other codes.

**PREPARATION**

1 Turn the Cable Box power OFF using the Cable Box's remote control.
2 Set the remote control's TV/CABLE/VCR switch to "CABLE".
3 While holding down the POWER button, enter your Cable Box's brand code with the Digit Keys then press STOP.
- Brand setting is completed. Once you set the brand, you do not have to reset it until the remote's batteries are replaced.
- If you set the wrong code, re-enter the right code.

4 Press POWER to turn the Cable Box's power on and check to see if the remote control works with the Cable Box.

**OPERATION**

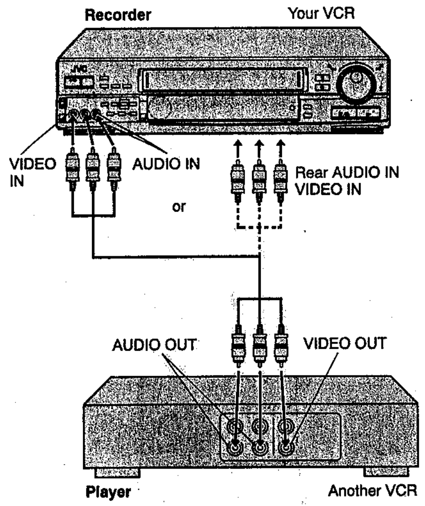
1 Set the remote control's TV/CABLE/VCR switch to "CABLE".
2 Operate the Cable Box.
- POWER, CH +/-, ENTER buttons and Digit keys are available.

3 To operate VCR, set the TV/CABLE/VCR switch to "VCR".

### NOTES:

- It is necessary to set the cable box brand in your remote control (this page) and the Cable Box Controller (☞p. 16) individually.
  With the remote control, you can change channels and turn on/off your cable box from a distance.
  With the Cable Box Controller, your cable box's channels can be automatically changed during timer-recording.
- Cable box brands available for the remote control (listed on the left) differ from those that are available for the Cable Box Controller (☞p. 16).
- It is possible that the remote control will not operate your cable box even if the cable box's channels automatically change during timer-recording using the Cable Box Controller.

# Editing



**FOR ASSEMBLE EDITING**

Assemble editing adds one recorded scene to another in succession. To use your VCR as the recording deck...

6 Load the source tape in the player, and the recording tape in your VCR.
7 Select the recording speed (SP or EP).
8 Put your VCR in the Record-Pause mode.
9 Play back the source tape to search for a scene to be edited.
10 Press the recorder's PLAY button where you want to start editing.
11 Press the recorder's PAUSE button to stop editing.
12 Repeat steps 9 through 11 to continue editing.
(Assemble Editing is also possible using your VCR as the playback deck.)

**Advantages Of S-VHS VCRs**

You can edit from VHS to S-VHS, from S-VHS to VHS, or from S-VHS to S-VHS.

- From VHS to S-VHS (VIDEO-VIDEO connection): Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by that of the original, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to VHS (VIDEO-VIDEO connection): Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS (S-VIDEO connection): All signals will be transferred without degradation.

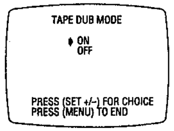
## To edit to or from another VCR

Your VCR can be used as either the recording deck or the source player when editing tapes.

**PREPARATION**

1 Connect the player's VIDEO OUT and AUDIO OUT connectors to the recorder's VIDEO IN and AUDIO IN connectors.
- If the player has an S VIDEO connector, connect it to the recorder's S VIDEO connector using the provided S-Video cable.
- When using your VCR as a recorder and connecting it to a monaural deck, connect that deck's AUDIO OUT connector to your VCR's AUDIO IN L connector.

**OPERATION**



2 Press MENU, SET, and SELECT as many times as necessary to access the "TAPE DUB MODE" screen. (☞ p. 7)
3 Press SET to choose "ON".
4 Press MENU as many times as necessary to exit.
5 Set the recorder's input mode to AUX.
- With this VCR model, press the digit key "0". "AU" will appear instead of a channel number.

**FOR INSERT EDITING**

Insert editing replaces part of the recorded scene with new material. Both the picture and Hi-Fi audio soundtrack are replaced with new ones, while the normal audio soundtrack remains unchanged. **Use your VCR as the recording deck.**

6 Load the source tape in the player, and the recording tape in your VCR.
7 Play back the recording tape and engage the Still mode at the edit-in point (the beginning of the segment to be replaced).
8 Press INSERT.
- Your VCR enters the Insert-Pause mode. (REC, PLAY and PAUSE light up on the FDP.)
- The TV screen changes from the still picture to the input signal you are going to record.

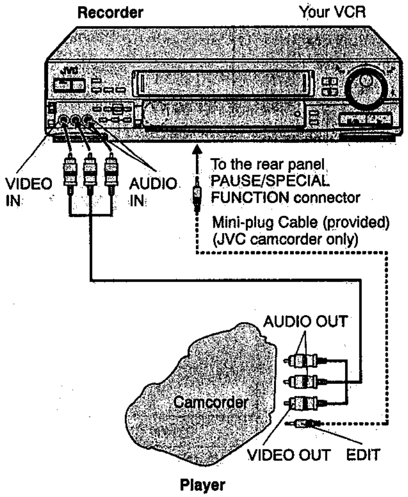
9 Play back the segment of the source tape to be inserted.
10 Press PLAY on the recorder.
- Insert editing will start. (PLAY and REC are displayed on the FDP.)

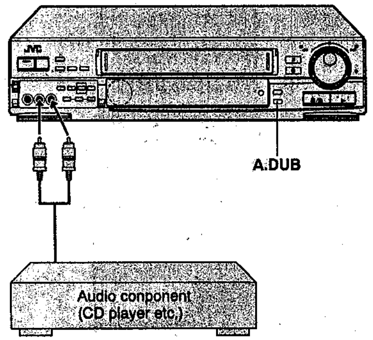
11 Press PAUSE on the recorder to stop insert editing.
- Do not press STOP to stop insert editing, otherwise the picture will be distorted at the switching point between the newly inserted and previously recorded pictures.

**FOR AV INSERT EDITING**

If you want to replace the picture, Hi-Fi audio soundtrack and normal audio soundtrack all at the same time...
In step 8 above, after you press INSERT, press A. DUB. also.
(REC and PLAY blink and PAUSE lights up on the FDP.)

---





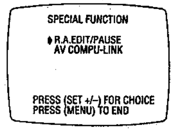
**NOTES:**

- After audio dubbing, the normal audio track remains selected. To hear the Hi-Fi tracks, select "Hi-Fi" ☞ p.20.
- Audio dubbing is possible using the rear connectors.
- Audio dubbing will stop automatically at the counter reading of "0:00:00", and the recorder will enter the Play mode. Check the counter before starting audio dubbing.
- It may be unlawful to record or play back copyrighted material without the consent of the copyright owner.

## To edit from a camcorder

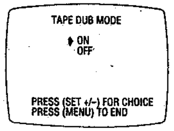
Tape-to-tape editing is also possible using a camcorder (equipped with playback facility) as the player and your VCR as the recorder.

**PREPARATION**



1 Connect the camcorder's VIDEO OUT and AUDIO OUT connectors to the VCR's front panel VIDEO IN and AUDIO IN connectors.
- Use the L connector for monaural connection.
- When a Master Edit Control-equipped JVC camcorder is used, the camcorder is capable of controlling your VCR.
  ① Press MENU, SET, and SELECT as many times as necessary to access the SPECIAL FUNCTION screen. (☞ p. 7)
  ② Press SET to choose "R.A.EDIT/PAUSE".
  ③ Press MENU as many times as necessary to exit.
  ● Refer to camcorder's instruction manual for set-up procedure.

**OPERATION**



2 Press MENU, SET and SELECT as many times as necessary to access the "TAPE DUB MODE" screen. (☞ p. 7)
3 Press SET to choose "ON".
4 Press MENU as many times as necessary to exit.
5 Set the VCR's input mode to AUX by pressing digit key "0". "AU" will appear instead of a channel number.
6 Put the camcorder in the Play mode.
7 Put the VCR in the Record mode.
● Refer to the camcorder/recorder's instruction manual for operation instructions.

## Audio Dubbing

Audio Dubbing replaces the normal audio sound of a previously recorded tape with a new soundtrack.

**PREPARATION**

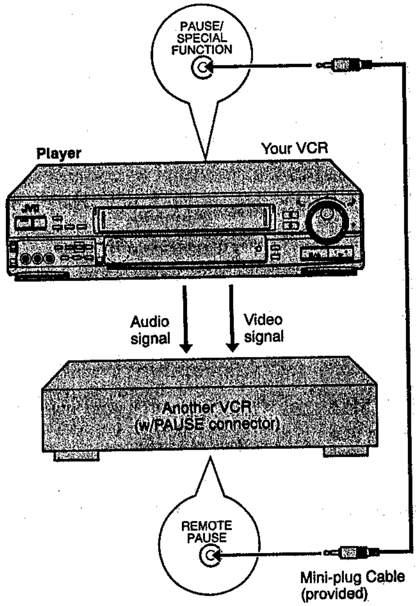
1 Connect an audio component to the recorder's front panel AUDIO L, R connectors. (For monaural equipment, use the L connector.)

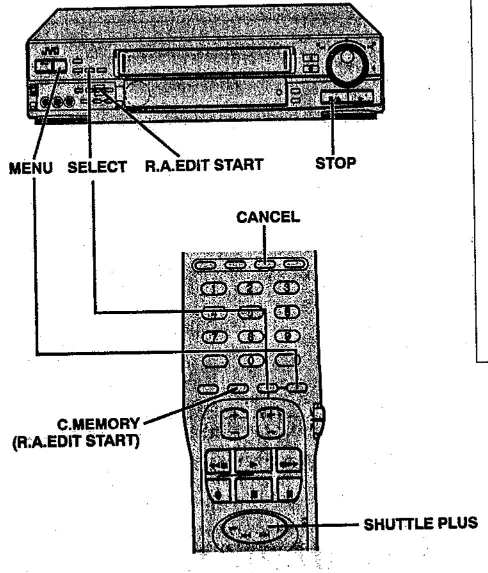
**OPERATION**

2 Set the VCR's input mode to AUX by pressing digit key "0". "AU" will appear instead of channel number.
3 Start playback and engage the Still mode at the point from which you wish to start audio dubbing.
4 Press A. DUB.
- Your VCR enters the Audio Dubbing-Pause mode. (REC blinks, PLAY and PAUSE light up on the FDP.)

5 Start playback of the audio source, and then press PLAY.
- Audio dubbing will start. (REC blinks and PLAY is displayed on the FDP.)

6 Pressing PAUSE temporarily stops audio dubbing.
7 Press STOP to stop audio dubbing.


PAUSE/
SPECIAL
FUNCTION
Player
Your VCR
Audio signal
Video signal
Another VCR
(w/PAUSE connector)
REMOTE
PAUSE
Mini-plug Cable
(provided)

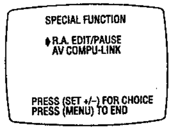

MENU
SELECT
R.A.EDIT START
STOP
CANCEL
C.MEMORY
(R.A.EDIT START)
SHUTTLE PLUS

## Random Assemble Editing

This function makes it easier to create edited videos when your VCR is used as the source player in combination with another video deck which is equipped with a PAUSE (i.e. REMOTE PAUSE) terminal. You can pre-program up to 8 scenes or "cuts" for automatic editing in the sequence you have specified.

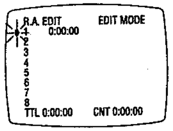
### PREPARATION

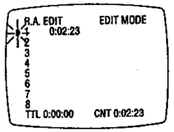
1. Connect your VCR's VIDEO OUT and AUDIO OUT connectors to the recording deck's VIDEO IN and AUDIO IN connectors.
2. Connect your VCR's PAUSE/SPECIAL FUNCTION connector to the recording deck's PAUSE connector.
   - If the recording deck does not have a PAUSE connector, connect to the R.A. EDIT connector.
3. Turn both units on.
4. Engage the recorder's AUX(iliary) mode.
5. Press MENU, SET, and SELECT as many times as necessary to access the SPECIAL FUNCTION screen. (☞ p. 7)
6. Press SET to choose "R.A. EDIT/PAUSE".
7. Press MENU as many times as necessary to exit.

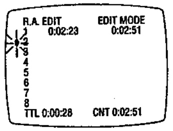

SPECIAL FUNCTION
♦R.A. EDIT/PAUSE
AV COMPU-LINK
PRESS (SET +/–) FOR CHOICE
PRESS (MENU) TO END

### OPERATION

8. Insert a recorded cassette into your VCR.
9. Play back the tape in your VCR.
10. Press MENU, SET and SELECT as many times as necessary to access the R.A. EDIT screen.
    - The screen is superimposed on the video playback.
11. Use the SHUTTLE PLUS button to search for the point where you want an edited scene to start, and press SELECT.
    - The cut-in point is registered in memory.
12. Use the SHUTTLE PLUS button to search for the point where you want the scene to end, and press SELECT.
    - The cut-out point is registered in memory.
    - The "TTL" reading displays the total running time of the edited scenes.
13. Specify additional scenes by repeating steps 11 – 12.

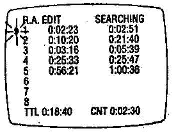

R.A. EDIT
EDIT MODE
1 0:00:00
2
3
4
5
6
7
8
TTL 0:00:00
CNT 0:00:00

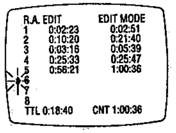

R.A. EDIT
EDIT MODE
1 0:02:23
2
3
4
5
6
7
8
TTL 0:00:00
CNT 0:02:23


R.A. EDIT
EDIT MODE
1 0:02:23 0:02:51
2
3
4
5
6
7
8
TTL 0:00:28
CNT 0:02:51

(Continued on next page.)

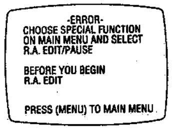
14. Insert a cassette (with safety tab intact) into the recording deck, and put the recording deck in the Record-Pause mode.
15. Press R.A.EDIT START.
    - The function begins automatic editing; all the specified scenes are copied to the recording deck in sequential order.
    - The on-screen display remains superimposed while your VCR searches for each scene (the blinking cursor points to the scene number presently being searched), and is not displayed while the scenes are being edited.
    - While a scene is being searched, the recording deck automatically enters the Record-Pause mode. "SEARCHING" appears on the screen.
    - When Random Assemble Editing is finished, your VCR enters the Still mode, the recording deck enters the Record-Pause mode, and the cursor blinks at the next available scene number.
16. Press MENU as many times as necessary to exit.
17. Press STOP on both decks to end Random Assemble Editing.


R.A. EDIT
SEARCHING
1 0:02:23 0:02:51
2 0:10:20 0:21:40
3 0:03:16 0:05:39
4 0:25:33 0:25:47
5 0:56:21 1:00:36
6
7
8
TTL 0:18:40
CNT 0:02:30


R.A. EDIT
EDIT MODE
1 0:02:23 0:02:51
2 0:10:20 0:21:40
3 0:03:16 0:05:39
4 0:25:33 0:25:47
5 0:56:21 1:00:36
6
7
8
TTL 0:18:40
CNT 1:00:36

## "ERROR" WARNING

If you choose "AV COMPU-LINK" by mistake in step 6 and then reach the R.A. EDIT screen in step 10, the "ERROR" display will appear as shown on the right.
Be sure to choose "R.A. EDIT/PAUSE" in step 6 to perform Random Assemble Editing.


-ERROR-
CHOOSE SPECIAL FUNCTION
ON MAIN MENU AND SELECT
R.A. EDIT/PAUSE
BEFORE YOU BEGIN
R.A. EDIT
PRESS (MENU) TO MAIN MENU

## OPTIONAL RM-V403U MULTI-BRAND R.A.EDIT CONTROLLER

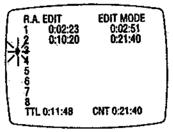
By connecting this controller to your VCR's R.A.EDIT Connector, Random Assemble Editing will become possible in conjunction with a second non-JVC VCR. The controller is compatible with various major VCR brands — convenient especially if you already own a VCR other than JVC. For compatible systems and availability, please consult your JVC dealer.

### NOTE:

You can also monitor the sound when searching for scenes you want to edit in steps 11 – 12.
Since you can hear the soundtrack during selection, you can avoid abrupt or unnatural sounding scene-to-scene connections.

## TO MAKE CORRECTIONS

During step 11 or 12, you can correct a cut-in or cut-out point using the remote control. Each time the CANCEL button is pressed, the immediately preceding point is cleared and can be reset.

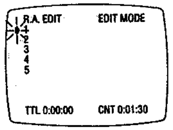

R.A. EDIT
EDIT MODE
1 0:02:23 0:02:51
2 0:10:20 0:21:40
3
4
5
6
7
8
TTL 0:11:48
CNT 0:21:40

- Example: The cut-out point for "2" can be changed by pressing CANCEL once (to clear it) and re-setting it. By pressing CANCEL more times, you can back up to previous points for re-setting, but all points in between will be cleared in the process. (e.g. To reach the cut-out point for "1", the cut-in and -out points for "2" will be cleared.)

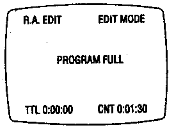
## MEMORY CAPACITY

Random Assemble Editing utilizes the same memory space as the VCR's timer; so the number of sequences available to this function may not be 8, depending on how many programs are already stored in memory.

- Example: Only sequences 1 – 5 are available because three programs are stored in the timer memory.


R.A. EDIT
EDIT MODE
1
2
3
4
5
TTL 0:00:00
CNT 0:01:30

- Example: The "PROGRAM FULL" screen appears when the timer memory is full (all 8 programs are used). To cancel a program, ☞ p. 32.


R.A. EDIT
EDIT MODE
PROGRAM FULL
TTL 0:00:00
CNT 0:01:30

## USING INDEX SEARCH WITH RANDOM ASSEMBLE EDITING

In step 11, Index Search can also be used to locate your edit points. When used, "INDEX" and the index number will appear on the R.A.Edit screen. For Index Search ☞ p. 22.

- Using Index Search during R.A.Edit will result in a reduction in accuracy.
- This function requires that index marks are previously recorded on your tape at the desired edit points.

# ? If You Have Any Questions

## Before requesting service...

### Power or Tape Transport Problems?

| Symptoms | Check points |
|---|---|
| No power is applied to the VCR. | ■ Is the power cord disconnected?<br>— Connect it. |
| Remote control does not function. | ■ Are the batteries discharged?<br>— Replace with new ones.<br>■ Is the A/B code switch set to the appropriate position?<br>■ Is the TV/CABLE/VCR switch set to the appropriate position?<br>— Check once again. |
| Clock is functioning properly, but the VCR cannot be powered. | ■ Is "TIMER" displayed on the display panel?<br>— Press the TIMER button to extinguish the display. |
| Cassette will not load. Gets stuck and is ejected a few seconds later. | ■ Are you inserting the cassette correctly? Incorrect insertion causes the built-in safety mechanism to automatically eject the cassette.<br>— Wait a few seconds and re-insert correctly.<br>— Be sure to push the middle of the cassette's label side and be sure the window side is up. |
| Tape stops during rewind or fast-forward. | ■ Is the C. MEMORY button pressed?<br>— Press again to make "M" disappear from the counter display. |
| Tape will not rewind or fast-forward. | ■ Is the tape already fully rewound or fast-forwarded?<br>— Check the cassette. |

### Playback Problems?

| Symptoms | Check points |
|---|---|
| Playback picture does not appear while the tape is running. | ■ If you are using RF OUT connection, is the TV receiver's channel selector set to the correct video channel?<br>— Set it to the RF converter channel (3 or 4). (☞ p. 8)<br>■ If you are using AV connection, is the TV receiver set to the AV mode?<br>— Set it to the AV mode. |
| Noise appears during visual search. | ■ This is normal. |
| Noise appears during normal playback. | ■ Is the automatic tracking mode engaged?<br>— Try manual tracking. (☞ p. 19) |
| Noise appears during slow playback. | ■ Try manual tracking. (☞ p. 19) |
| Playback picture is blurred or interrupted while TV broadcasts are clear. | ■ Video heads may be dirty.<br>— Head cleaning is necessary. Consult your JVC dealer (☞ p. 41). |
| Breaks are noticeable in Hi-Fi audio sound. | ■ Is the automatic tracking mode engaged?<br>— Try manual tracking. (☞ p. 19). |
| Hi-Fi soundtrack cannot be heard. | ■ Is "AUDIO MONITOR" on the FUNCTION menu set to "NORM"?<br>— Set it to "HI-FI" (☞ p. 20).<br>■ Is Hi-Fi audio present on the tape? |

### Recording Problems?

| Symptoms | Check points |
|---|---|
| Recording cannot be started. | ■ Is a cassette loaded?<br>■ Is the safety tab on the cassette removed?<br>— Cover with adhesive tape. (☞ p. 26) |
| TV broadcasts cannot be recorded. | ■ Has "AUX" been selected by mistake?<br>— Set to the desired channel. |
| Tape-to-tape editing is not possible. | ■ Is the camcorder or VCR correctly connected?<br>■ Are all necessary power switches turned ON?<br>■ Has "AUX" been selected?<br>— Set to "AUX".<br>— If using a rear panel input connection, make sure nothing is connected to the front panel connectors. (☞ p. 34) |
| Camera recording is not possible. | ■ Is the camcorder correctly connected?<br>■ Has "AUX" been selected?<br>— Set to "AUX". |

### Timer-Recording Problems?

| Symptoms | Check points |
|---|---|
| Timer recording is not possible. | ■ Have you set the clock correctly and programmed the timer correctly?<br>— Check once again.<br>■ Have you set-up the VCR? Make sure you have...<br>— Set the VCR's tuner.<br>— Made necessary changes in the Guide Channel Set screen.<br>■ Is the TIMER indicator displayed on the display panel?<br>— If not, press the TIMER button to display the TIMER indicator. |
| Cable channels are not automatically switched during timer-recording. | ■ Make sure that...<br>— The Cable Box Controller is connected to your VCR's CABLE BOX Connector (☞ p. 14).<br>— The correct Cable Box output channel selected in the CABLE BOX OUTPUT menu (☞ p. 15).<br>— The Cable Box's power is left ON during timer-recording.<br>■ Although the provided Cable Box Controller is compatible with many different cable box brands, it is possible that it will not work with your cable box. |
| Timer recording takes place, but the channel is always wrong. | ■ Is CABLE BOX OUTPUT menu set to "ON" even though you don't use an external Cable Box?<br>— If you don't use a Cable Box, set CABLE BOX OUTPUT menu to "OFF". (☞ p. 15). |
| We moved, and now VCR Plus+ doesn't work properly. | ■ TV stations differ by locale. It may be necessary to re-set the VCR.(☞ p. 17). |
| "PROGRAM FULL" is displayed on the VCR Plus+ input screen. | ■ The VCR's timer memory if full; all 8 programs are used.<br>— Cancel any unnecessary programs in the timer memory (☞ p. 32). |
| Timer programming screen does not function properly. | ■ Is the ITR indicator displayed on the display panel?<br>— Timer programming is not possible while an ITR is in progress. |
| "TIMER" and "📼" on the display panel continue blinking. | ■ There is no cassette in the VCR.<br>— Insert a cassette with the safety tab intact. |
| The cassette is automatically ejected. "TIMER" and "📼" continue blinking. | ■ The inserted cassette has its safety tab removed.<br>— Insert a cassette with its safety tab intact. Or cover the safety tab hole of the cassette with adhesive tape and re-insert it (☞ p. 26). |
| "TIMER" blinks for 10 seconds and the timer mode is cancelled. | ■ There are no preset programs in memory, or they have all been incorrectly preset.<br>— Check the programmed data and re-program it as necessary. Press TIMER again. |
| The cassette is ejected, power is shut off and "TIMER" and "📼" are blinking. | ■ This means that the end of the tape was reached while timer-recording was in progress. Therefore, the preset program may not be recorded in its entirety. |

### Other Problems?

| Symptoms | Check points |
|---|---|
| Some channels are skipped over when scanning channels. | ■ Those channels are preset to be skipped over. If you need them, restore them. (☞ p. 13) |
| Channel cannot be changed. | ■ Is recording in progress?<br>— Press the PAUSE button, change the channel, and press the PLAY button. |
| Snowy picture on screen when viewing TV programs while recording another program. | ■ Is the VIDEO indicator lit?<br>— Press the TV/VIDEO button. |
| Remote control does not operate my TV. | ■ Although the provided remote control unit is compatible with JVC televisions as well as many TV models manufactured by others, it is possible that the provided remote control will not operate your TV, or in some instances, will have limited function capability. (☞ p. 33)<br>■ Is the remote control's TV/CABLE/VCR switch set to "TV"?<br>— If not, set it to "TV". |
| "12:00 AM" is blinking. | ■ This means the clock must be set. It's displayed when time-keeping is terminated due to a power failure or because the VCR's power plug was pulled from the AC outlet. To set the clock. ☞ p. 11. If power was interrupted, it's also likely that all preset timer programming data has been erased. Please check and re-program as necessary. |

**ATTENTION:**

This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the power off and unplug the power cord. Then plug it in again and switch power on. Take out the cassette. After checking the cassette, operate the unit as usual.

# ? If You Have Any Questions (cont'd)

## Notes regarding...

### Tuner Set

- Since receivable channels differ by locale, it will be necessary to reset your VCR's channels when you move to another location. Auto Channel Set is the easiest way to do this. ☞ p. 12

### Playback

- If the end of the tape is reached during play or search, it is automatically rewound to the beginning and stops.
- The VCR automatically stops when still continues for more than 5 minutes.
- If the still picture is unstable, use the VCR's CH –/+ buttons to correct the picture.
- During search playback, some noise bars will appear.
- If noise bars appear during playback or slow motion, correct using manual tracking. ☞ p. 19.
- There is no audio during search, slow, still, or frame-by-frame playback.
- When playing back LP recordings during search, still or frame-by-frame playback, the picture will be distorted, and there may be a loss of color.
- When a tape is first inserted, the recorder enters the automatic tracking mode automatically.
- During multi-speed search, some noise bars will appear.
- You do not have to set to NORM when playing back tapes with normal sound track only.
- When MIX is selected, both "Hi-Fi" and "NORM" appear on the TV screen when the OSD button is pressed.

### Recording

- To start recording with the VCR's Record button, press it once on its own. Pressing Record more than once activates Instant Timer Recording. ☞ p. 26.
- After pause, when recording is resumed, a few frames recorded before the pause may be overlapped by the new recording. This is meant to reduce picture distortion and is not a malfunction.
- The VCR automatically stops when record-pause continues for more than 5 minutes.
- If the end of the tape is reached while recording, it is automatically rewound to the beginning and stops.
- If the Record button does not work, check to see if the cassette's safety tab has been removed.
- The channel cannot be changed while recording is in progress. To change the channel, press Pause, then change the channel.
- The Remaining Tape Time is calculated based on the tape speed (SP or EP) being used. The indicated remaining time is only an estimate. Near the beginning of the tape, this estimate may be inaccurate. However, as the tape is used and the amount of remaining tape decreases, the estimation becomes more accurate.

### Timer-Recording

- When timer-recording is successfully completed, the VCR power is automatically switched off.
- If the end of tape is reached while timer-recording, the cassette is automatically ejected.
- Since the timer starts and stops recording based on the time being kept by the VCR's built-in clock, the clock's time must be accurate for correct timer-recording results.
- When you program the timer while viewing a program or a tape, the TV screen will show the on-screen menu but the audio will continue to be heard.
- You can also program the timer while the VCR is recording; the on-screen menu will not be recorded on tape.
- Although the provided Cable Box Controller is compatible with many different cable box brands, it is possible that it will not work with your cable box.

### Remote TV Operation

- Whenever you replace batteries in the remote control, it is necessary to reset the TV code if your television is not a JVC TV.
- With some televisions, the TV/VIDEO button functions only to switch the TV to the VIDEO(AV) mode.
- Although the provided remote control unit is compatible with JVC televisions as well as many TV models manufactured by others, it is possible that the provided remote control will not work with your TV.

### Remote Cable Box Operation

- Whenever you replace batteries in the remote control, it is necessary to reset the Cable Box code.
- Although the provided remote control unit is compatible with many different Cable Box brands, it is possible that the provided remote control will not work with your Cable Box.

### Editing

- Connections made to the front panel VIDEO and AUDIO inuts automatically override any rear panel VIDEO/AUDIO input connections. If you wish to edit with another machine connected to the rear input connectors, make sure that there is nothing connected to the front connectors.
- If connections are made to both the front VIDEO and S-VHS connectors, the S-VHS connection has priority.

### Insert Editing

- To stop insert editing automatically, first determine the edit-out point on the recording tape (the end of the segment to be replaced) and press the remote control's C.RESET button. Then follow steps 8 through 11 in "Insert Editing" (☞ p.34); insert editing will stop automatically at the counter reading of 0:00:00.
- Insert editing cannot be started from a non-recorded segment.
- A small portion of the recording which precedes an insert edit may become erased.
- Video or audio insert cannot be performed if the safety tab is absent.
- Video or audio insert cannot be performed on a tape recorded at LP speed.
- Distortion may occur in the inserted video if the recording tape had discontinuous video or video recorded at different speeds.

### Audio Dubbing

- When monitoring the sound during Audio Dubbing, the normal soundtrack will be automatically selected. If you wish to hear the mixed sound (Hi-Fi + normal soundtracks), ☞ p. 20.
- Audio dubbing is not possible with cassettes whose safety tab is absent.

### Random Assemble Editing

- When editing, there may be a discrepancy of about 2 seconds on the playback tape between the locations you choose as cut-in/out points and the locations the VCR recognizes as those points.
- For any scene, the cut-out point must have a counter reading that is at least 1 second after the cut-in point. A cut-out point with a counter reading less than or the same as the cut-in point will not be registered.
- Since the playback deck prerolls during Random Assemble Editing, there must be at least 15 seconds worth of recorded material prior to any cut-in point on the playback tape.
- If the search time for a cut-in point exceeds 5 minutes, the recording deck's Record-Pause mode will be cancelled and editing will not take place.
- R.A.Edit is also possible with another JVC VCR which doesn't have a PAUSE terminal but does have an R.A.EDIT connector. In this case, connect both VCRs by their R.A.EDIT connectors.

# Precautions

**Please follow these safety precautions. Not doing so may result in damage to the VCR, remote control, or video cassette.**

- **Avoid extreme heat and direct sunlight.**
- **Avoid extreme cold.**
- **Avoid extreme humidity.**
- **Avoid dust.**
- **Avoid places subject to vibrations.**
- **Avoid strong magnetic fields.**
- **Do not block the VCR's ventilation openings.**
- **Do not place anything heavy on the VCR or remote control.**
- **Do not place anything which might spill on top of the VCR or remote control.**
- **Do not place the VCR on cushions, pillows, or thick carpeting.**
- **Use the VCR in a stable, horizontal position only.**

### Beware of moisture condensation

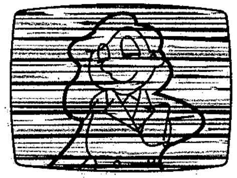
Moisture in the air will condense on the VCR when you move it from a cold place to a warm place, or under extremely humid conditions — just as water droplets form on the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the VCR's power turned on for a few hours to let the moisture dry.

### When transporting

- Be sure to remove cassette from VCR before packing.
- Avoid violent shocks to the VCR during packing and transport.

Place cassettes in cassette cases and store vertically.

# About head cleaning



Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. Although this model is equipped with a built-in head cleaner which automatically cleans the heads, reducing the likelihood of dirty heads, if such troubles are encountered please consult the nearest JVC dealer.

### Auto Head Cleaner

A built-in head cleaner automatically cleans the video heads and head drum whenever a tape is loaded or unloaded to reduce head clogging.

# Specifications

### GENERAL

| | |
|---|---|
| Power requirement | AC 120 V∿, 60 Hz |
| Power consumption | 26 W |
| Temperature | |
| Operating | 5°C to 40°C (41°F to 104°F) |
| Storage | –20°C to 60°C (–4°F to 140°F) |
| Operating position | Horizontal only |
| Dimensions (WxHxD) | 400 x 94 x 340 mm<br>(15-3/4" x 3-3/4" x 13-7/16") |
| Weight | 4.5 kg (10.0 lbs) |
| Format | S-VHS/VHS NTSC standard with Hi-Fi audio |
| Maximum recording time (SP) | 160 min. with T-160 video cassette |
| (EP) | 480 min. with T-160 video cassette |

### VIDEO/AUDIO

| | |
|---|---|
| Signal system | NTSC-type color signal and EIA monochrome signal, 525 lines/60 fields |
| Recording/Playback system | DA-4 (Double Azimuth) head helical scan system |
| Signal-to-noise ratio | 45 dB |
| Horizontal resolution | 400 lines (S-VHS)<br>240 lines (VHS) |
| Frequency range | 70 Hz to 10,000 Hz (Normal audio)<br>20 Hz to 20,000 Hz (Hi-Fi audio) |
| Input/Output | RCA connectors (IN x 2, OUT x 1) |

### TUNER

| | |
|---|---|
| Tuning system | Frequency synthesized tuner |
| Channel coverage | |
| (VHF) | Channels 2–13 |
| (UHF) | Channels 14–69 |
| (CATV) | 113 Channels |
| RF output | Channel 3 or 4<br>(switchable; preset to Channel 3 when shipped) 75 ohms, unbalanced |

### TIMER

| | |
|---|---|
| Clock reference | Quartz |
| Program capacity | 1-year programmable timer/<br>8-programs |
| Memory backup time | Approx. 60 min. |

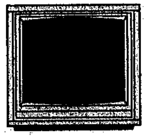
### ACCESSORIES

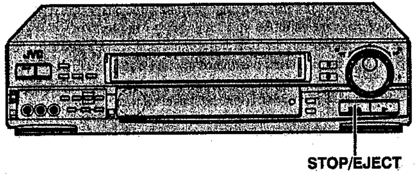
| | |
|---|---|
| Provided accessories | RF cable (F-type),<br>Infrared remote control unit,<br>"AAA" battery x 2,<br>Cable Box Controller,<br>S-Video cable (4-pin),<br>Audio/Video cable,<br>Mini-plug cable |

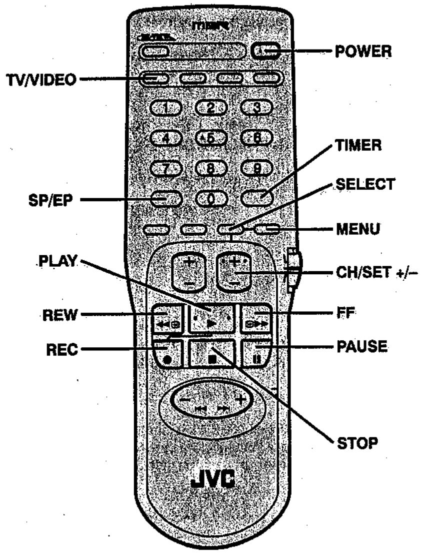
Specifications shown are for SP mode unless otherwise specified.
E. & O.E. Design and specifications subject to change without notice.

# Operaciones básicas en español

Para las conexiones VCR-TV vea la hoja de la "Guía básica para las conexiones del VCR" adjunta a este manual de instrucciones.



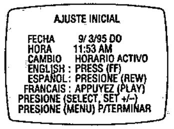




## Disposición básica

### Ajuste del reloj de su VCR y de la lengua para indicación en pantalla

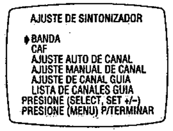
1. Presione POWER para encender el VCR.
2. Presione TV/VIDEO para que aparezca "TV" del display del VCR.
3. Presione MENU.
4. Presione SET +/– para seleccionar "AJUSTE INICIAL", y luego presione SELECT.
5. Presione REW para seleccionar "ESPAÑOL" para indicación en pantalla.
6. Presione SET +/– para fijar el mes y luego presione SELECT.
7. Repita el paso 6 para ajustar el día, el año y la hora.

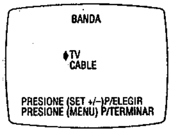

AJUSTE INICIAL
FECHA 9/ 3/95 DO
HORA 11:53 AM
CAMBIO HORARIO ACTIVO
ENGLISH : PRESS (FF)
ESPAÑOL : PRESIONE (REW)
FRANCAIS : APPUYEZ (PLAY)
PRESIONE (SELECT, SET +/–)
PRESIONE (MENU) P/TERMINAR

8. Presione MENU para comenzar de funcionamiento del reloj.

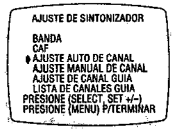
### Asignación de canales al sintonizador de su VCR

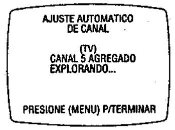
1. Presione POWER para encender el VCR.
2. Presione TV/VIDEO para que aparezca "TV" del display del VCR.
3. Presione MENU.
4. Presione SET +/– para seleccionar "AJUSTE DE SINTONIZADOR", y luego presione SELECT.


AJUSTE DE SINTONIZADOR
◆BANDA
CAF
AJUSTE AUTO DE CANAL
AJUSTE MANUAL DE CANAL
AJUSTE DE CANAL GUIA
LISTA DE CANALES GUIA
PRESIONE (SELECT, SET +/–)
PRESIONE (MENU) P/TERMINAR


BANDA
◆TV
CABLE
PRESIONE (SET +/–)P/ELEGIR
PRESIONE (MENU) P/TERMINAR

5. Presione SET +/– para seleccionar "BANDA", y luego presione SELECT.
6. Presione SET +/– para seleccionar "TV" o "CABLE".
   - ■ Ajústelo en TV si su antena recibe sólo canales de UHF y VHF. Ajústelo en CABLE si su sistema de antena es una línea de TV por cable.
7. Presione MENU.
8. Presione SET +/– para seleccionar "AJUSTE AUTO DE CANAL", y luego presione SELECT.
   - ■ Se inicia la sintonización automática de canales y después de completada la misma aparecerá en la pantalla el mensaje "FIN DE EXPLORACION".


AJUSTE DE SINTONIZADOR
BANDA
CAF
◆AJUSTE AUTO DE CANAL
AJUSTE MANUAL DE CANAL
AJUSTE DE CANAL GUIA
LISTA DE CANALES GUIA
PRESIONE (SELECT, SET +/–)
PRESIONE (MENU) P/TERMINAR


AJUSTE AUTOMATICO DE CANAL
(TV)
CANAL 5 AGREGADO
EXPLORANDO...
PRESIONE (MENU) P/TERMINAR

9. Presione MENU tantas veces como sea necesario.

## Reproducción básica

### Preparación

- ■ Encienda el televisor.
- ■ Seleccione el canal 3 o 4 (o modo AV).

1. Inserte un cassette.
   - ■ El VCR se encenderá automáticamente y el contador se reposicionará a 0:00:00.
   - ■ Si el cassette no tuviera lengüeta de seguridad, comenzará automáticamente la reproducción.
2. Presione PLAY para iniciar la reproducción.
3. Presione STOP para detener la reproducción.
   - ■ Para rebobinar la cinta, presione REW.
   - ■ Para avanzar rápidamente la cinta, presione FF.
   - ■ Para detener el rebobinado o bobinado rápido, presione STOP.
4. Presione STOP/EJECT en el VCR para expulsar el cassette.

## Grabación básica

### Preparación

- ■ Encienda el televisor.
- ■ Seleccione el canal 3 o 4 (o modo AV).

1. Inserte un cassette con lengüeta de seguridad.
   - ■ El VCR se encenderá automáticamente y el contador se reposicionará a 0:00:00.
2. Presione CH +/– (o las teclas numéricas y luego ENTER) para seleccionar el canal que desea grabar.
3. Presione SP/EP para cambiar la velocidad de cinta.
4. Presione simultáneamente REC y PLAY para comenzar la grabación.
   - ■ Para efectuar una pausa de grabación, presione PAUSE.
   - ■ Para continuar con la grabación, pesione PLAY.
5. Presione STOP para detener la grabación.

### Para mirar un programa mientras graba otro

Durante la grabación...

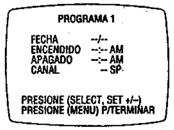
1. Presione TV/VIDEO para que aparezca "VIDEO" del display del VCR.
   - ■ La teledifusión que se está grabando desaparecerán.
2. Utilice los controles de canales del televisor para elegir otro canal que desee ver.
   - ■ El programa seleccionado con los controles de canales de TV aparecerá en la pantalla del televisor mientras el programa seleccionado con los controles de canales del VCR se grabará en la cinta.

## Grabación por temporizador

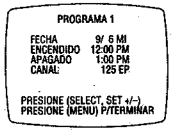
### Preparación

- ■ Encienda el televisor.
- ■ Seleccione el canal 3 o 4 (o modo AV).

1. Inserte un cassette con lengüeta de seguridad.
   - ■ El VCR se encenderá automáticamente y el contador se reposicionará a 0:00:00.
2. Presione dos veces MENU, y luego presione SELECT.
   - ■ Aparecerá el menú "PROGRAMA".


PROGRAMA 1
FECHA --/--
ENCENDIDO --:-- AM
APAGADO --:-- AM
CANAL -- SP
PRESIONE (SELECT, SET +/–)
PRESIONE (MENU) P/TERMINAR

3. Presione SET +/– para seleccionar un número de programa vacante, y luego presione SELECT.
   - ■ Inicialmente todos los programas están vacantes y el cursor está en el programa 1. Por lo tanto, presione simplemente SELECT.
4. Presione SET +/- para fijar el mes y luego presione SELECT.
5. Presione SET +/- para fijar el día del mes.
   - ■ Para grabar un programa diario (lunes – viernes), presione DAILY (tecla 8). Para grabar un programa semanal, presione WEEKLY (tecla 9).
6. Presione SELECT.
7. Repita el paso 4 para fijar la hora de inicio, la hora de finalización, el número de canal y la velocidad de cinta.


PROGRAMA 1
FECHA 9/ 6 MI
ENCENDIDO 12:00 PM
APAGADO 1:00 PM
CANAL 125 EP
PRESIONE (SELECT, SET +/–)
PRESIONE (MENU) P/TERMINAR

8. Presione MENU tantas veces como sea necesario.
9. Presione TIMER.
   - ■ El VCR se establecerá en el modo de grabación programada y se apagará.

# For Servicing

## HOW TO LOCATE YOUR JVC SERVICE CENTER

### *TOLL FREE: 1-800-252-5722*

***Dear customer:***
*In order to receive the most satisfaction from your purchase, read the instruction booklet before operating the unit. In the event that repair is necessary, or for the address nearest your location, please refer to the factory service center list below or within the Continental United States, call 1-800-252-5722 for your authorized servicer. Remember to retain your Bill of Sale for Warranty Service.*

*—JVC*

### JVC SERVICE & ENGINEERING COMPANY OF AMERICA
DIVISION OF US JVC CORP.

FACTORY SERVICE CENTER LOCATIONS

107 Little Falls Road
Fairfield, NJ 07004-2105
(201) 808-9279

1500 Lakes Parkway
Lawrenceville, GA 30243-5357
(404) 339-2522

705 Enterprise Street
Aurora, IL 60504-8149
(708) 851-7855

5665 Corporate Avenue
Cypress, CA 90630-0024
(714) 229-8011

10700 Hammerly, Suite 110
Houston, TX 77043-2310
(713) 935-9331

2969 Mapunapuna Place
Honolulu, HI 96819-2040
(808) 833-5828

230 Eliot Street
Ashland, MA 01721-2377
(508) 881-5923

14505 Commerce Way
Miami Lakes, FL 33016-1512
(305) 362-6252

890 Dubuque Avenue
South San Francisco, CA 94080-1804
(415) 871-2666

*Sophisticated electronic products may require occasional service. Just as quality is a keyword in the engineering and production of the wide array of JVC products, service is the key to maintaining the high level performance for which JVC is world famous. The JVC service and engineering organization stands behind our products.*

NATIONAL HEADQUARTERS
JVC SERVICE & ENGINEERING COMPANY OF AMERICA
DIVISION OF US JVC CORP.
107 Little Falls Road
Fairfield, NJ 07004-2105

### *If you ship the product...*

*Pack your JVC unit in the original carton or one of equivalent size and strength. Enclose, with the unit, a letter stating the problem or symptom that exists and also a copy of the receipt or bill of sale you received when you purchased your JVC unit. Print your home return address on the outside and the inside of the carton. Send to the appropriate JVC Factory Service Center as listed above.*

**Don't service it yourself.**

**CAUTION**

*To prevent electrical shock, do not open the cabinet.*
*No user serviceable parts inside.*
*Refer servicing to qualified service personnel.*

### *ACCESSORIES*

*To purchase accessories for your JVC product, you may contact your local JVC Dealer. Or from the 48 Continental United States call toll free: 1-800-882-2345.*

# Warranty

## LIMITED WARRANTY

**CONSUMER VIDEO 1-90**

JVC COMPANY OF AMERICA warrants this product and all parts thereof, except as set forth below ONLY TO THE ORIGINAL PURCHASER AT RETAIL to be FREE FROM DEFECTIVE MATERIALS AND WORKMANSHIP from the date of original retail purchase for the period as shown below. ("The Warranty Period")

| | | | |
|---|---|---|---|
| PARTS | 1 YR | LABOR | 90 DAYS |

THIS LIMITED WARRANTY IS VALID ONLY IN THE FIFTY (50) UNITED STATES, THE DISTRICT OF COLUMBIA AND IN COMMONWEALTH OF PUERTO RICO.

**WHAT WE WILL DO:**
If this product is found to be defective, JVC will repair or replace defective parts at no charge to the original owner. Such repair and replacement services shall be rendered by JVC during normal business hours at JVC authorized service centers. Parts used for replacement are warranted only for the remainder of the Warranty Period. All products and parts thereof may be brought to a JVC authorized service center on a carry-in basis except for Television sets having a screen size 25 inches and above which are covered on an in-home basis.

**WHAT YOU MUST DO FOR WARRANTY SERVICE:**
Return your product to a JVC authorized service center with a copy of your bill of sale. For your nearest JVC authorized service center, please call toll free: (800) 252-5722.

If service is not available locally, box the product carefully, preferably in the original carton, and ship, insured, with a copy of your bill of sale plus a letter of explanation of the problem to the nearest JVC Factory Service Center, the name and location of which will be given to you by the toll-free number.

If you have any questions concerning your JVC Product, please contact our Customer Relations Department.

**WHAT IS NOT COVERED:**
This limited warranty provided by JVC does not cover:

1. Products which have been subject to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, or if repaired or serviced by anyone other than a service facility authorized by JVC to render such service, or if affixed to any attachment not provided with the products, or if the model or serial number has been altered, tampered with, defaced or removed;
2. Initial installation and installation and removal for repair;
3. Operational adjustments covered in the Owner's Manual, normal maintenance, video and audio head cleaning;
4. Damage that occurs in shipment, due to act of God, and cosmetic damage;
5. Signal reception problems and failures due to line power surge;
6. Video Pick-up Tubes/CCD Image Sensor, Cartridge, Stylus (Needle) are covered for 90 days from the date of purchase;
7. Accessories;
8. Batteries (except that Rechargeable Batteries are covered for 90 days from the date of purchase);from the date of purchase);

There are no other express warranties except as listed above.

THE DURATION OF ANY IMPLIED WARRANTIES INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN.

JVC SHALL NOT BE LIABLE FOR THE LOSS OF USE OF THE PRODUCT, INCONVENIENCE, LOSS OR ANY OTHER DAMAGES, WHETHER DIRECT, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, WITHOUT LIMITATION, DAMAGE TO TAPES, RECORDS OR DISCS) RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE WARRANTY PERIOD SET FORTH ABOVE.

Some states do not allow the exclusion of incidental or consequential damages or limitations on how long an implied warranty lasts, so these limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

JVC COMPANY OF AMERICA
DIVISION OF US JVC CORP.

41 Slater Drive
Elmwood Park, New Jersey 07407

REFURBISHED PRODUCTS CARRY A SEPARATE WARRANTY, THIS WARRANTY DOES NOT APPLY. FOR DETAILS OF REFURBISHED PRODUCT WARRANTY, PLEASE REFER TO THE REFURBISHED PRODUCT WARRANTY INFORMATION PACKAGED WITH EACH REFURBISHED PRODUCT.

**For customer use:**
Enter below the Model No. and Serial No. which is located either on the rear, bottom or side of the cabinet. Retain this information for future reference.

Model No.: ______________________

Serial No: ______________________

Purchase date: ______________________

Name of dealer: ______________________

# SECTION 1
# DISASSEMBLY

## 1.1 DISASSEMBLY FLOW CHART

This flowchart lists shows the disassembly steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend,route and dress the flat cables as they were originally.

① Top cover
↓
② Bottom cover
↓
③ Front panel assy
↓
④ SW/JACK & DISPLAY board assies
↓
⑤ Cassette housing assy
↓
⑥ PRE/REC board assy
↓
⑦ DRUM assy
↓
⑧ Main deck assy
↓
⑨ Main board assy
↓
⑩ Digital Sub board assy

## 1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

| STEP /LOC NO. | PART NAME | FIG. NO. | POINT | NOTE |
|---|---|---|---|---|
| ① | TOP COVER | D1 | 4(S1) | |
| ② | BOTTOM COVER | D2 | (S2), 7(L1) | |
| ③ | FRONT PANEL ASSY | D3 | 7(L2),*JOG/SHUTTLE | <NOTE 1> |
| ④ | SW/JACK & DISPLAY BOARD ASSIES | D4 | 12(L3),*CN1 | <NOTE 2> |
| ⑤ | CASSETTE HOUSING ASSY | D5 | 4(S3)<br>EARTH PLATE | <NOTE 3> |
| ⑥ | PRE/REC BOARD ASSY | D6 | 2(S4),*CN1<br>*CN201,*CN202<br>SHIELD CASE | |
| ↑<br>(1) | ↑<br>(2) | ↑<br>(3) | ↑<br>(4) | ↑<br>(5) |

(1) Order of steps in Procedure.
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) NO. of parts Figures.
(2) Part name to be removed or installed.
(3) Fig.No. showing procedure or part location
(4) Indentification of part to be removed,unhooked,unlocked, released,unpluged,unclamped or unsoldered. P = Spring, W = Washer, S = Screw, L = Locking tab, * = Unhook,unlock, release,unplug or unsolder.
(5) Adjustment information for installation

## 1.3 DISASSEMBLY/ASSEMBLY METHOD

| STEP /LOC NO. | PART NAME | FIG. NO. | POINT | NOTE |
|---|---|---|---|---|
| ① | TOP COVER | D1 | 5(S1),<br>SIDE PANEL (L),(R)<br>(HR-S7200U) | |
| ② | BOTTOM COVER | D2 | (S2), 7(L1),(P1) | |
| ③ | FRONT PANEL ASSY | D3 | 7(L2),*JOG/SHUTTLE | <NOTE1> |
| ④ | SW/JACK & DISPLAY BOARD ASSIES | D4 | 13(L3),*CN1,<br>*CN3, *CN5 | <NOTE2> |
| ⑤ | CASSETTE HOUSING ASSY | D5 | 2(S3) ,2(S8)<br>EARTH PLATE | <NOTE3> |
| ⑥ | PRE/REC BOARD ASSY | D6 | 3(S4),*CN1<br>*CN201,*CN202<br>SHIELD CASE | |
| ⑦ | DRUM ASSY | D7 | 3(S5),WR1,4(L4),<br>(L5)<br>INERTIA PLATE<br>HEAD CLEANER | <NOTE4> |
| ⑧ | MAIN DECK ASSY | D8 | 2(S6),WR2<br>WR3,2(L6),*CN603 | <NOTE5> |
| ⑨ | MAIN BOARD ASSY | D9 | 2(S7),(L7) | |
| ⑩ | DIGITAL SUB BOARD ASSY | D9 | 2(S9),(L8) | |

<NOTE1>
When reattaching the front panel assy, make sure that the door opener (a) of the cassette housing assy is lowered in position prior to the reinstallation.

<NOTE2>
When plugging the connector in, check that the flat wire is inserted properly and fully.

<NOTE3>
When reattaching the cassette housing assy, pay careful attention to the switch lever not to make it touch the REC switch knob of the REC SAFETY board assy from the upside.
(If the REC switch knob of the REC SAFETY board assy is damaged, cassette loading is impossible.)

<NOTE4>
When plugging the connector in, check that the flat wire is inserted properly and fully.

<NOTE5>
- When removing the Main deck assy only, unhook the two spacers connecting it with the Main board assy with pliers from the back side of the Main board assy first, and then remove the Main deck assy.
- When reattaching the Main deck assy to the Main board assy, make sure to set the spacers into the retaining slots respectively.

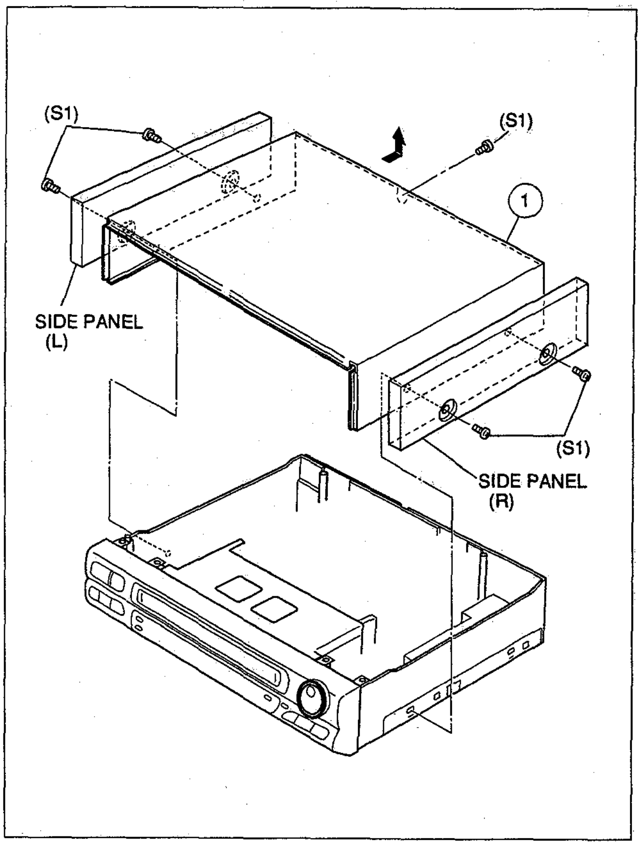

(S1)
(S1)
1
SIDE PANEL
(L)
(S1)
SIDE PANEL
(R)

Fig. D1

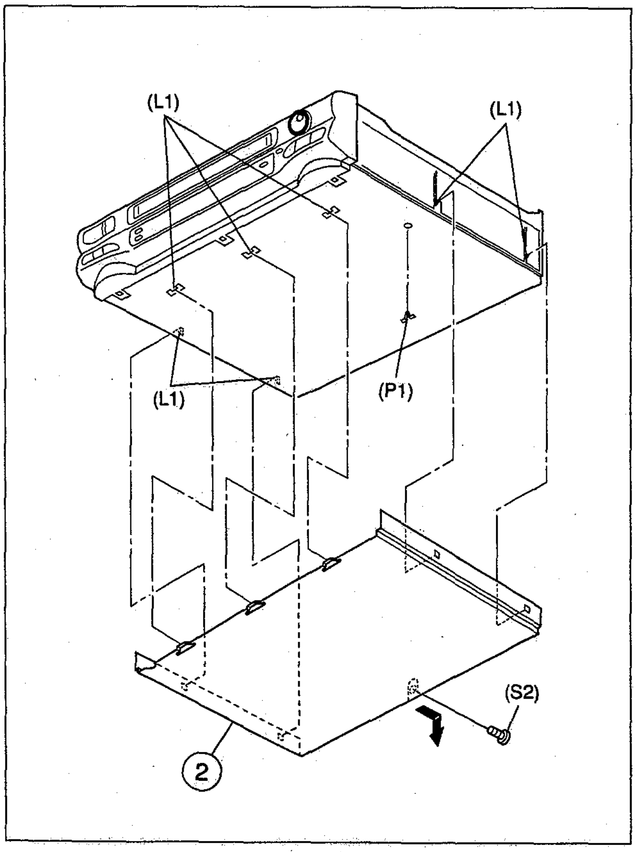

(L1)
(L1)
(L1)
(P1)
(S2)
2

Fig. D2

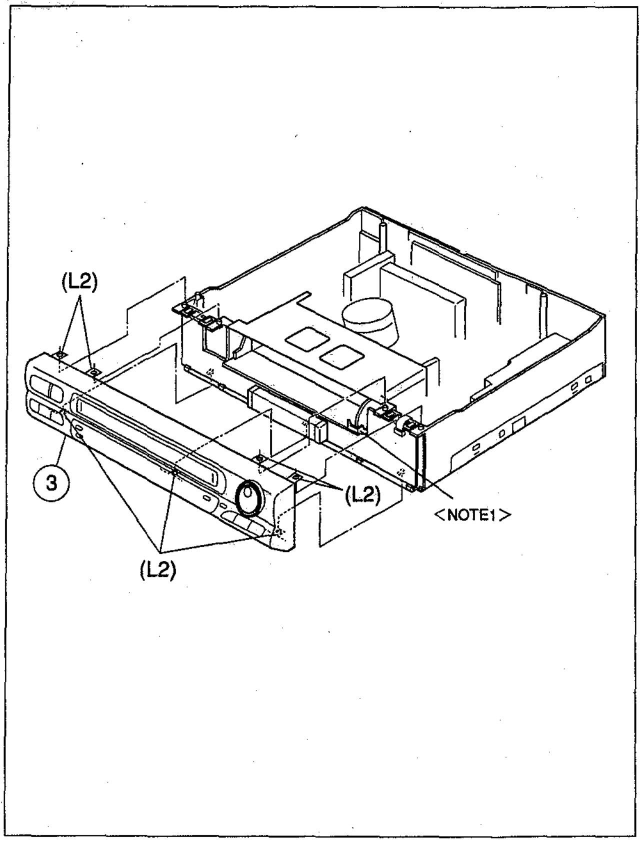


Fig. D3

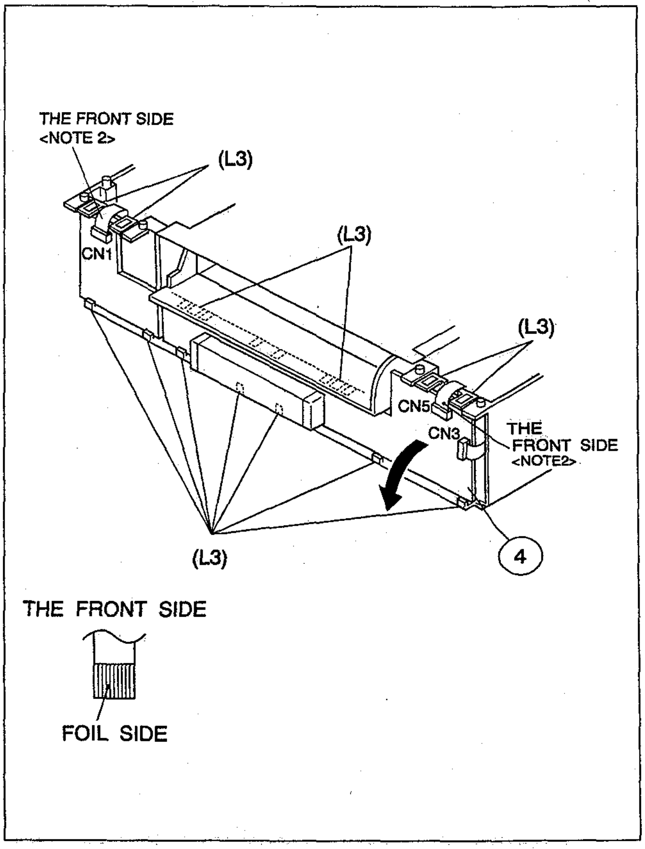

THE FRONT SIDE
<NOTE 2>
(L3)
CN1
(L3)
(L3)
CN5
CN3
THE
FRONT SIDE
<NOTE2>
(L3)
4
THE FRONT SIDE
FOIL SIDE

Fig. D4

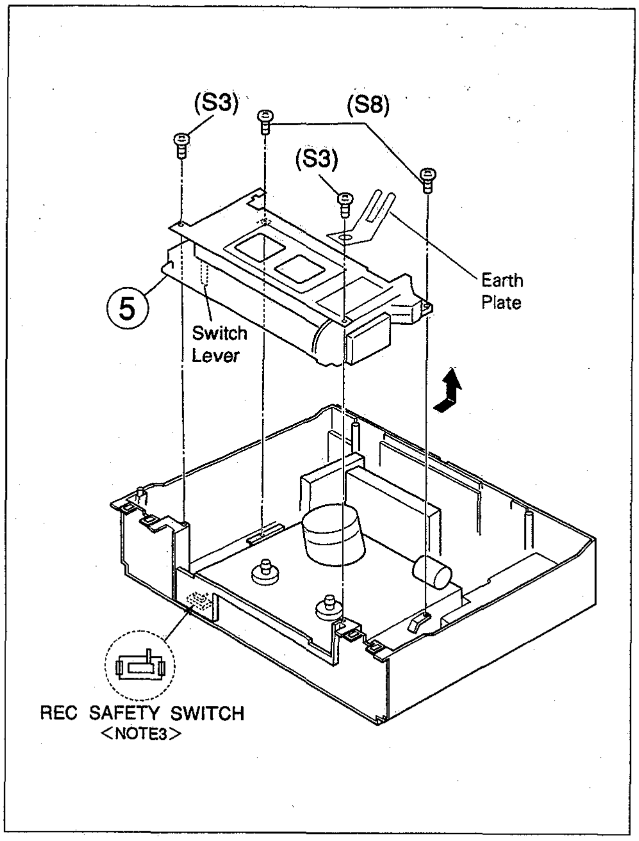

(S3)
(S8)
(S3)
Earth Plate
5
Switch Lever
REC SAFETY SWITCH
<NOTE3>

Fig. D5

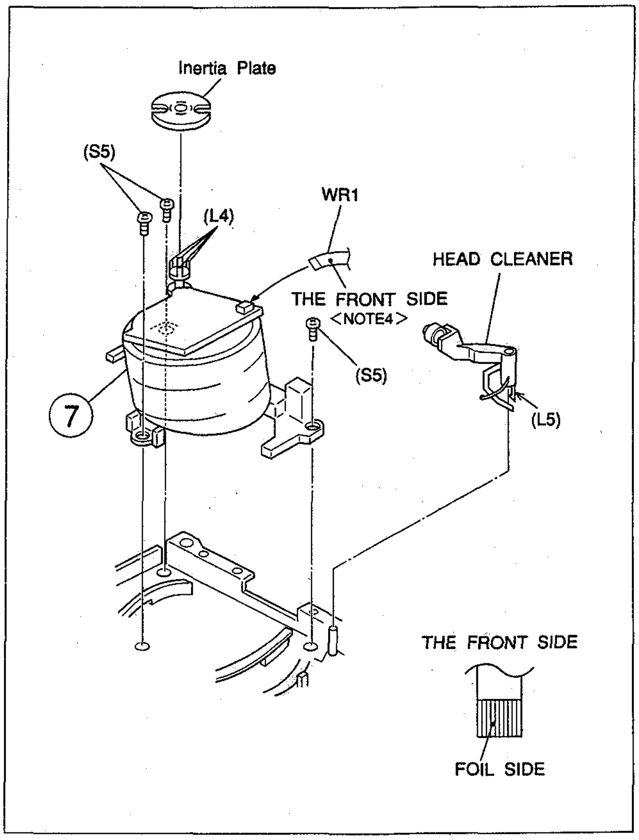

Inertia Plate
(S5)
(L4)
WR1
HEAD CLEANER
THE FRONT SIDE
<NOTE4>
(S5)
7
(L5)
THE FRONT SIDE
FOIL SIDE

Fig. D7

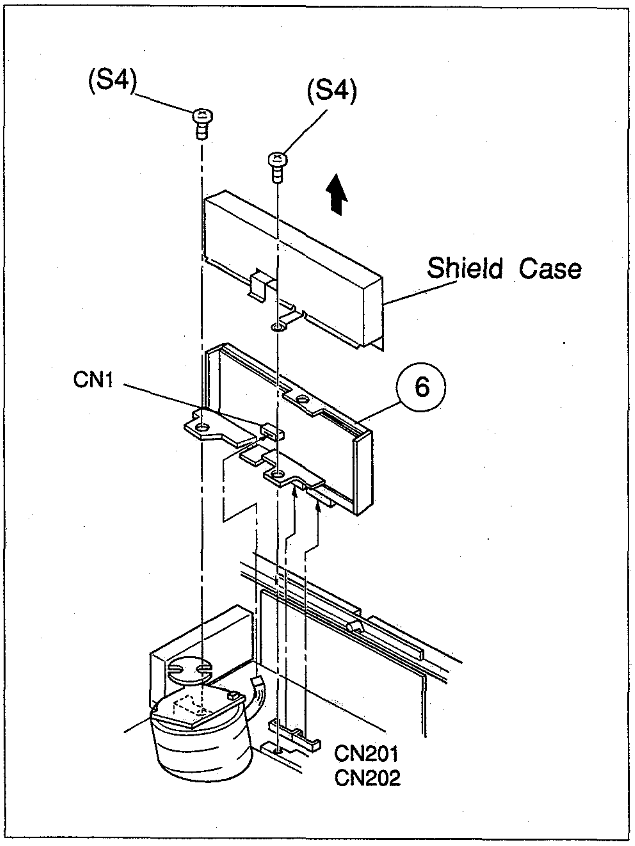

(S4)
(S4)
Shield Case
CN1
6
CN201
CN202

Fig. D6

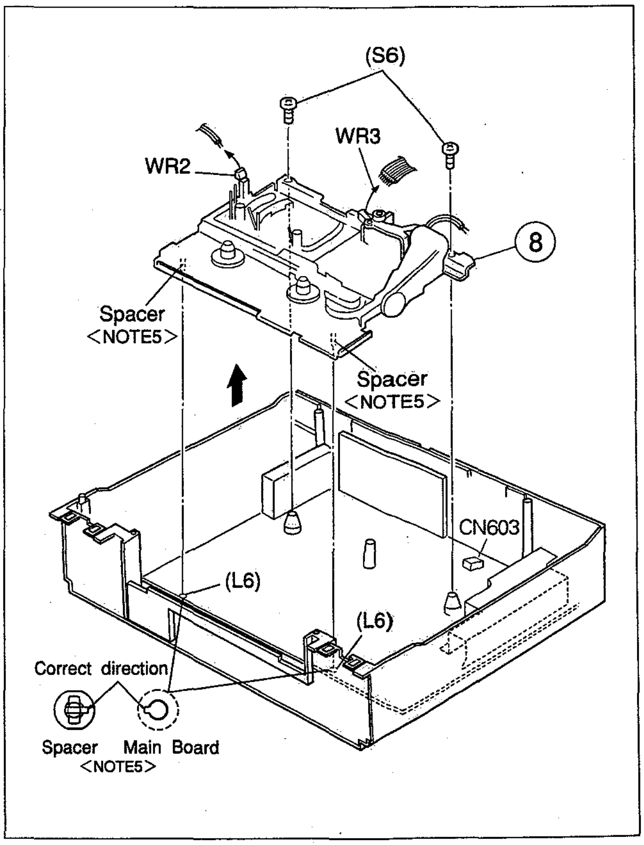

(S6)
WR3
WR2
8
Spacer
<NOTE5>
Spacer
<NOTE5>
CN603
(L6)
(L6)
Correct direction
Spacer
Main Board
<NOTE5>

Fig. D8

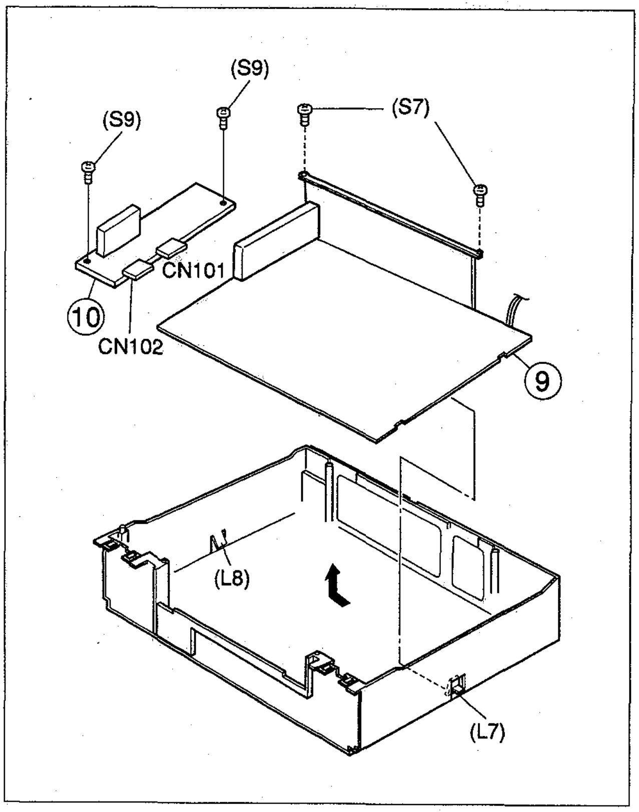


Fig. D9

## 1.4 CASSETTE HOUSING INSTALLATION

**NOTE:** *Observe the mechanical phase and position (see figure) when installing the cassette housing assembly. If these are incorrect, the system will not operate properly even when tape is inserted.*

1. Check that the hole of the control cam are aligned to the deck hole. If necessary, turn the mode motor belt by hand to adjust the position.

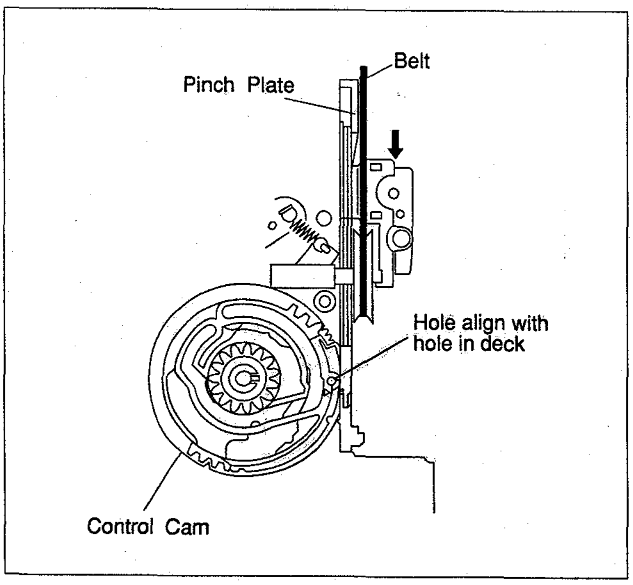


Fig. 1-4-1

## 1.5 SERVICE POSITION

### 1.5.1 How to take out the Mechanism and Main board assemblies.

(1) Remove the Top cover, Front panel assy and CN1 of the DISPLAY board assy.

(2) Take out 4 screws Ⓐ 2 screws Ⓑ, 1 screw Ⓒ and 2 screws Ⓓ as shown in Fig.1-5-1.

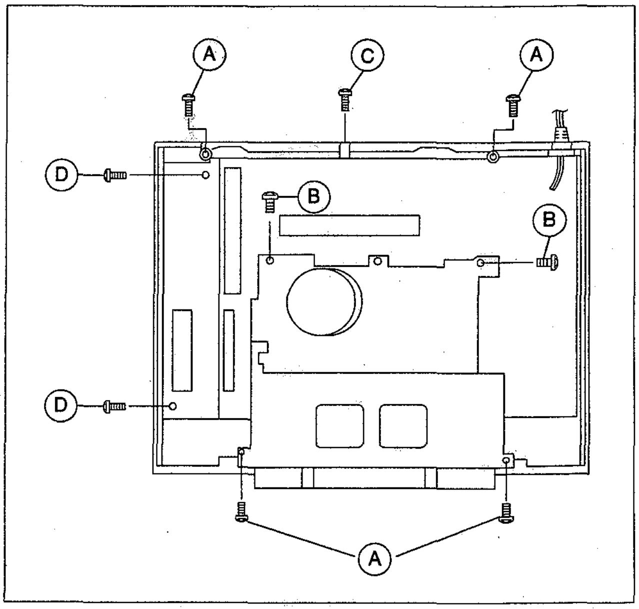


Fig. 1-5-1

(3) Disengage 2 claws ⓐ from the chassis.

(4) Remove the Mechanism assy (including Cassette housing) and Main board assy out of the chassis as shown in Fig. 1-5-2.

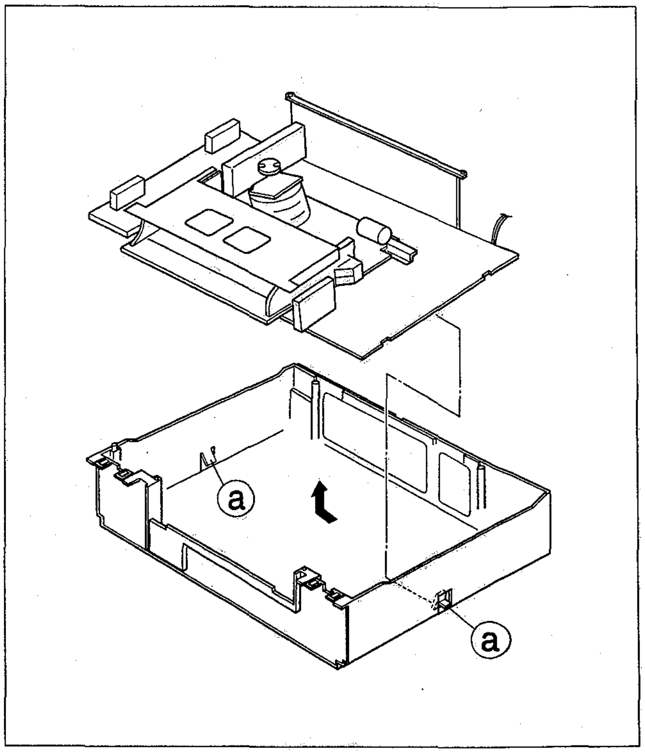
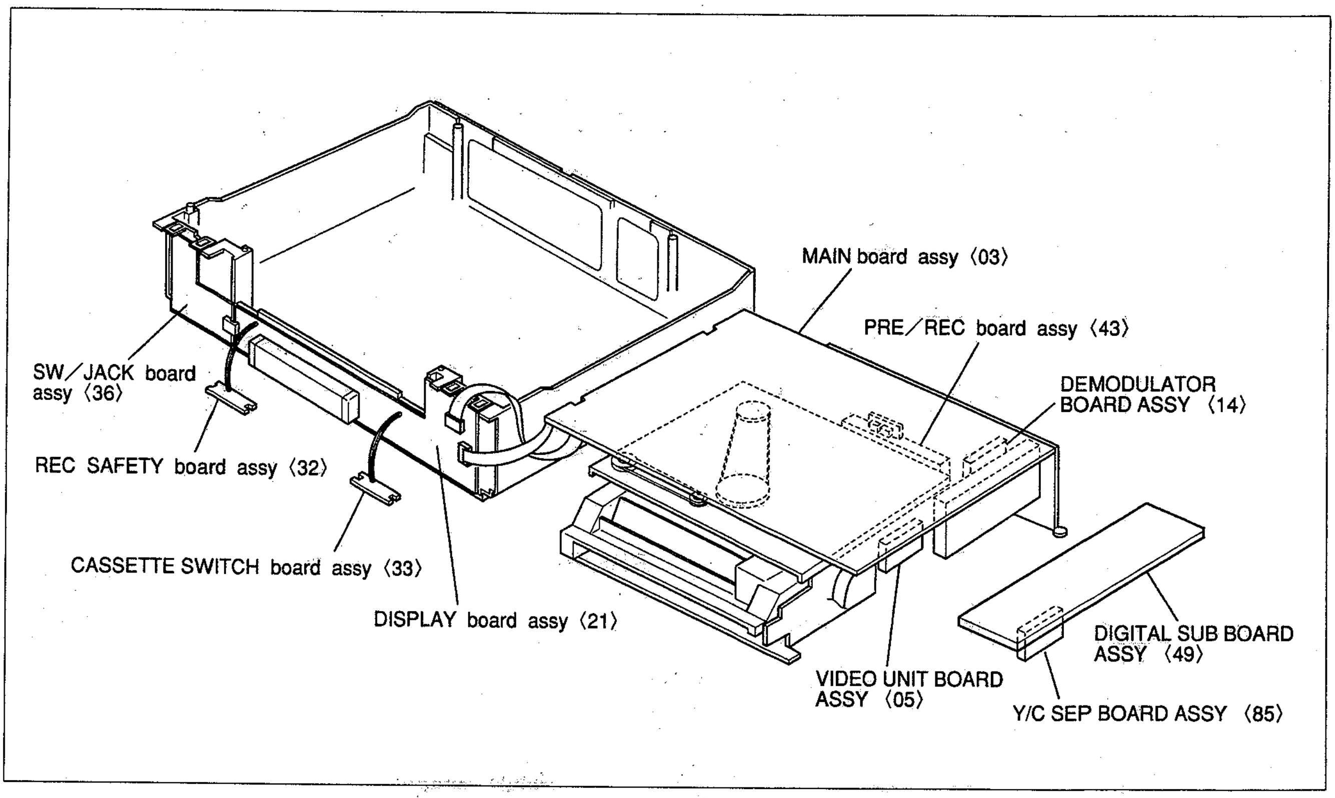


Fig. 1-5-2

(5) Turn over the Mechanism assy and Main board assy then connect CN5 and CN3 of the DISPLAY board assy.

(6) Carry out checks & repairs as necessary as shown in Fig.1-5-3.

**Note:** *When input the AUDIO/VIDEO signal from connector, connect CN1 of the SW/JACK board assy.*



MAIN board assy ⟨03⟩
PRE/REC board assy ⟨43⟩
DEMODULATOR BOARD ASSY ⟨14⟩
SW/JACK board assy ⟨36⟩
REC SAFETY board assy ⟨32⟩
CASSETTE SWITCH board assy ⟨33⟩
DISPLAY board assy ⟨21⟩
DIGITAL SUB BOARD ASSY ⟨49⟩
VIDEO UNIT BOARD ASSY ⟨05⟩
Y/C SEP BOARD ASSY ⟨85⟩

Fig. 1-5-3

### 1.5.2 Cautions on cassette loading when mechanism is in service position

The REC SAFETY board assembly of this set serves both for detecting the safety tab (erasure prevention tab) of a cassette and detecting a cassette loaded. Therefore, cassette loading in the condition that the mechanism is disassembled from the set needs manual operation of the switches of the REC SAFETY board assembly and the CASSETTE SWITCH board assembly.

### 1.5.3 Cassette loading and ejecting procedures when mechanism is in service position

(1) Insert a cassette tape halfway into the cassette housing assembly.

(2) Press the switch of the REC SAFETY board assembly to turn on.

(3) When the cassette loading begins and the cassette goes down to the bottom, immediately press the switch of the REC SAFETY board assembly to turn off and hold the status that the switch of the CASSETTE SWITCH board assembly is turned on. (Fix the switch with adhesive tape or put a screwdriver, etc. on it to leave the switch in the ON status.)

(4) In this status, desired operations (recording, playback, fast forward, rewind, etc.) can be performed.

**Note:** *When the mechanism is in the service position, the safety tab of cassette tape is not detected and recording on cassette tapes without safety tab is possible. Therefore, carefully choose a cassette tape for operation in this mode so as to avoid using cassette tapes of important recording.*

(5) For ejecting the cassette in this status, do it in the reverse order of cassette loading mentioned above.

**Note:** *If the manual operation REC SAFETY switch timing is incorrect, the cassette may be completely or partially ejected, and the cassette is often ejected incompletely. In such a case, it is possible to take out the cassette by hand.*

If it is desired to load a cassette again after the cassette is ejected in the above procedure, make sure to set the tray of the cassette housing assembly in the frontmost position prior to loading the cassette once again.

### 1.5.4 Opening on the chassis.

The chassis assy has openings for easy access to the checkpoints and connector pins as shown in Fig.1-5-4.

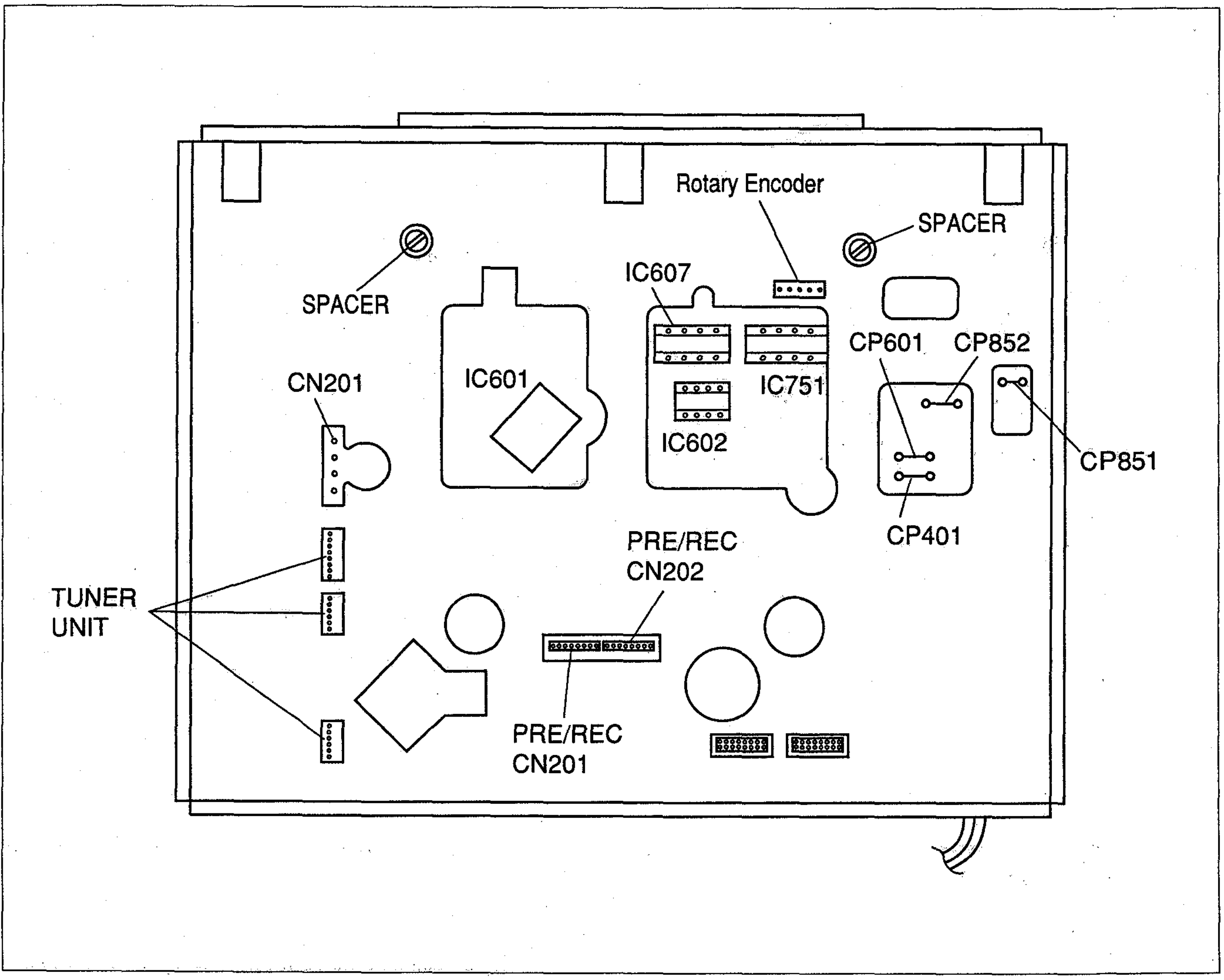

Rotary Encoder
SPACER
SPACER
IC607
CP601
CP852
CN201
IC601
IC751
IC602
CP851
CP401
PRE/REC
CN202
TUNER
UNIT
PRE/REC
CN201

Fig. 1-5-4

## 1.6 MECHANISM SERVICE MODE

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the "MECHANISM SERVICE MODE".

### 1.6.1 How to set the "MECHANISM SERVICE MODE"

(1) Disconnect VCR from AC.
(2) Remove the Top cover, Front panel assy and cassette housing assy. (See Page 1-2, 1-3)
(3) Connect B4 (GND) and B5 (TEST) on the DISPLAY board assy with a jump wire.
(4) Connect VCR to AC.
(5) Press the POWER button.
(6) Select the desired operation modes with the operation buttons or remote controller.

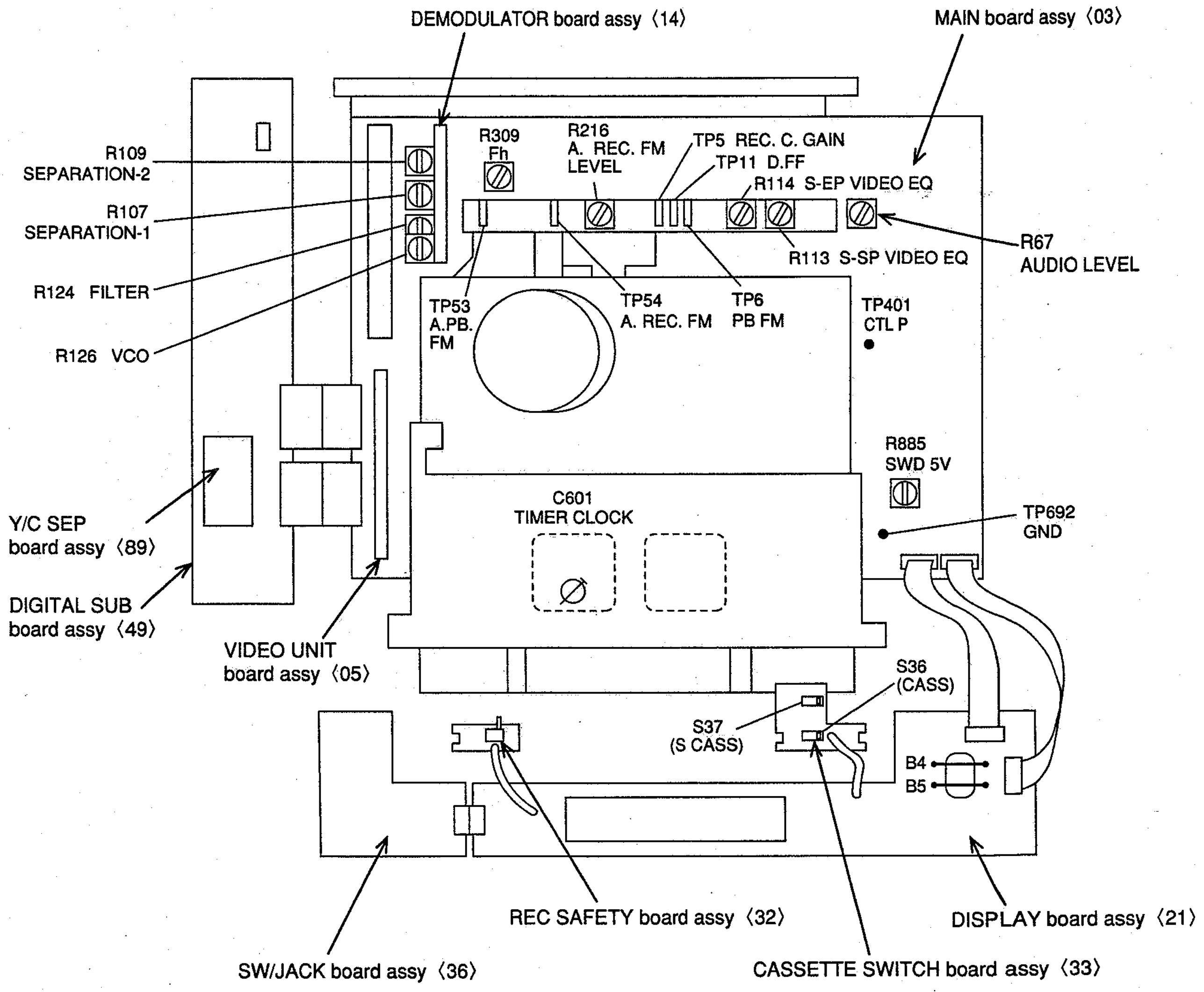

DEMODULATOR board assy ⟨14⟩
MAIN board assy ⟨03⟩
R109
SEPARATION-2
R107
SEPARATION-1
R124 FILTER
R126 VCO
R309
Fh
R216
A. REC. FM
LEVEL
TP5 REC. C. GAIN
TP11 D.FF
R114 S-EP VIDEO EQ
R113 S-SP VIDEO EQ
R67
AUDIO LEVEL
TP53
A.PB.
FM
TP54
A. REC. FM
TP6
PB FM
TP401
CTL P
R885
SWD 5V
TP692
GND
C601
TIMER CLOCK
Y/C SEP
board assy ⟨89⟩
DIGITAL SUB
board assy ⟨49⟩
VIDEO UNIT
board assy ⟨05⟩
S36
(CASS)
S37
(S CASS)
B4
B5
REC SAFETY board assy ⟨32⟩
DISPLAY board assy ⟨21⟩
SW/JACK board assy ⟨36⟩
CASSETTE SWITCH board assy ⟨33⟩

Fig. 1-6-1

## 1.7 EMERGENCY DISPLAY FUNCTION

This product has the function to store the last two previous emergency faults which can be displayed in the FDP when servicing.

### 1.7.1 How to display record of an emergency faults

(1) Press "N" button of the presetting unit more than 2 seconds. and the two previous emergency faults are shown in the FDP.

(2) Press "N" button of the presetting unit again to return to the normal mode.

[Example] E : 01 : 03

- 03 — Emergency faults before last
- 01 — Emergency faults of the last time

[Example] E : — — : — — ← No record of emergency

### 1.7.2 Detail of emergency faults

| FDP | Symptom | Detect mode | Resulting mode |
|---|---|---|---|
| E : 01 | Loading motor rotates for more than 8 Sec without shift to next mode. | Loading | POWER OFF |
| E : 02 | Loading motor rotates for more than 8 Sec without shift to next mode. | Unloading | POWER OFF |
| E : 03 | SUP or TU REEL FG input is absent (for more than 4 Sec) | REC/PLAY/FF/REW<br>SEARCH FF/SEARCH REW | STOP → POWER OFF |
| E : 04 | DRUM FF input is absent(for more than 3 Sec) | REC/PLAY/FF/REW<br>SEARCH FF/SEARCH REW | STOP |
| E : 06 | CAPSTAN FG input is absent(for more than 1 Sec) | REC/PLAY/FF/REW<br>SEARCH FF/SEARCH REW | STOP → POWER OFF |
| E : 07 | No SWD5V/12V | POWER ON | POWER OFF |

Table 1-7-1 EMERGENCY FAULTS

### 1.7.3 How to clear emergency record

Press the COUNTER RESET button on the remote controller in the emergency record display mode,and the record of the emergency fault(s) is cleared.

# SECTION 2
# MECHANISM ADJUSTMENT

## 2.1 PREPARATION

### 2.1.1 Precautions

(1) Disconnect VCR from AC power before soldering.
(2) Avoid imparting stress to wires when disengaging connectors.
(3) Determine and correct the cause of difficulty before proceeding to adjustments.Do not disturb settings unnecessarity.
(4) Use care not to damage tabs,claws,etc during repairs.
(5) Install the cassette housing assy only when the mechanism is in the MECHANISM ASSEMBLING MODE position.
(6) When installing the Front panel assy,be sure to engage the housing door with the door opener of the cassette housing assy.
If this is omitted,the cassette door will not open at Eject and the cassette can not be removed. (See SECTION 1 DISASSEMBLY.)

### 2.1.2 Check without cassette housing assy.

Mechanism operations can be observed easily by removing the cassette housing assy. Use the MECHANISM SERVICE MODE (See SECTION 1 DIASSEMBLY )

### 2.1.3 Manual removal of loaded tape

When the deck enters the emergency mode with cassette tape loaded and it can not be ejected by pressing the EJECT button,take out of the cassette tape according to the following procedure.

(1) Disconnect the power cord from AC outlet then take out the Top cover and Front panel assy.
(2) Turn the mode motor on the Main deck assy by hand in the unloading direction to where the pole base assy (supply and take-up) is positioned below the cassette tape.At that time, pay careful attention to the tape not to get soiled with grease.
(3) Take out 4 screws of the cassette housing assy.(See SECTION 1 DISASSEMBLY )
(4) Remove the cassette housing with slackened tape and guard panel of cassette.
(5) Wind up the tape by turning the reel hub(either supply or take-up side for convenience) from the bottom of the cassette,and remove the cassette tape.

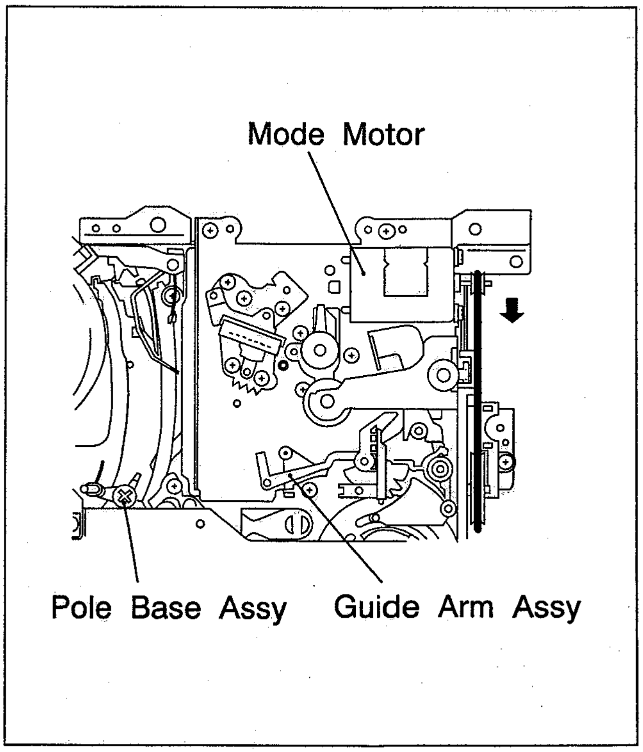


Fig. 2-1-1

### 2.1.4 Test Equipment

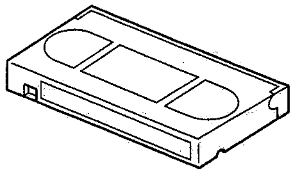
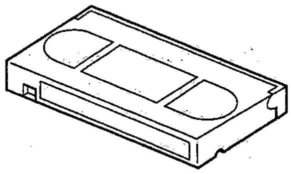
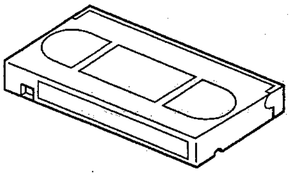
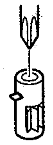
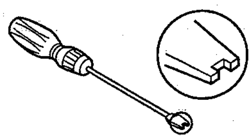
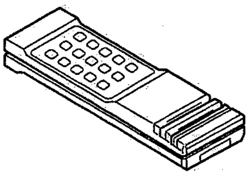
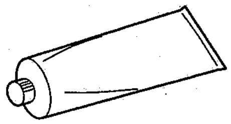
| Alignment tape (SP)<br>MHP | Alignment tape (EP)<br>MHP-L | Back tension cassette gauge<br>PUJ48076-2 | A/C head positioning tool<br>PTU94010 |
|---|---|---|---|
|  |  |  |  |
| Roller driver<br>PTU94002 | Presetting unit<br>PTU94008 | Grease<br>KYODO-SH-P | |
|  |  |  | |

Table 2-1 Test equipment

## 2.2 MAIN MECHANISM PARTS

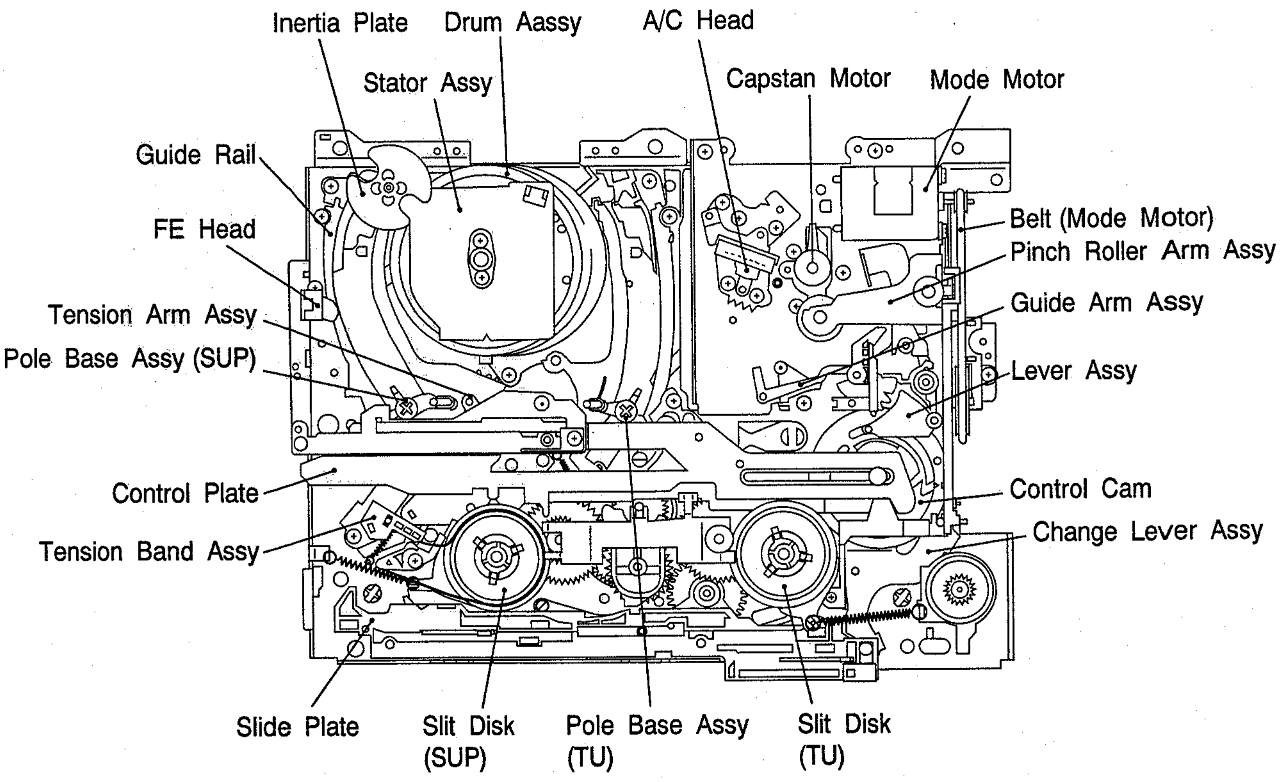

Inertia Plate
Drum Aassy
A/C Head
Stator Assy
Capstan Motor
Mode Motor
Guide Rail
FE Head
Tension Arm Assy
Pole Base Assy (SUP)
Belt (Mode Motor)
Pinch Roller Arm Assy
Guide Arm Assy
Lever Assy
Control Plate
Tension Band Assy
Control Cam
Change Lever Assy
Slide Plate
Slit Disk (SUP)
Pole Base Assy (TU)
Slit Disk (TU)

Fig. 2-2-1 Top view of main deck

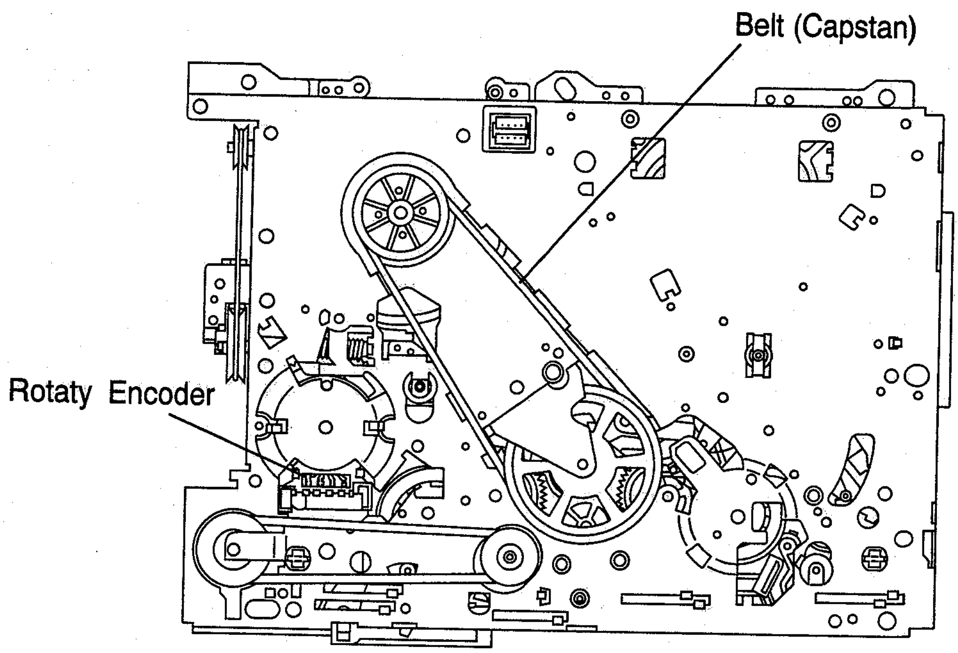


Fig. 2-2-2 Bottom view of main deck

### 2.2.1 Cleaning

Periodic cleaning of the tape transport system is desirable,but ordinarity not feasible in practice.Therefore,perform cleaning when a set is brought in for repairs or maintenance. Contamination of the video heads,tape guides and brush can detract from playback picture quality and in extreme cases,even damage the tape.For cleaning,use a finemesh cotton cloth(about the texture of a while dress-shirt) moistened in alcohol. It is recomended to also clean thetape tension posts and capstan.

- To clean the video heads,press the moistened cloth gently against the upper drum with fingertip and turn the drum gy hand.
- Do not use a vertical stroke,as this may damage the heads.

### 2.2.2 Lubrication

Oil and grease do not normally require periodic replenshing. Apply only when replacing lubricated parts(also clean and replace lubrication of mating parts if soiled). For parts and points to apply oil and grease, refer to the exploded views of the mechanism assy. Before oiling,clean with alcohol.Apply one or two drops of oil. Avoid excess oil.

1. Table 2-2-1 indicates the oil and grease used in this set. Use these or recommended locally available equivalents.

| Category | Part No. |
|---|---|
| Oil | COSMO-HV56 |
| Grease | KYODO-SH-P |

Table 2-2-1

2. Grease is not required for a replacement cassette housing assy,as this has been applied at the factory.

**NOTE :** *Stir grease that has been stored for an extended period.*

## 2.3 INSPECTION AND MAINTENANCE

This product employs rotary and moving parts which wear out in the course of usage.Periodic inspection, cleaning, lubrication and maintenance are therefore important for ensuring maximum performance. Worn parts must also be replaced as and when required.

### 2.3.1 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning,lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions.However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time,even if the set is not used.

| System | Parts Name | Operation Hours | |
|---|---|---|---|
| | | ~1000H | ~2000H |
| Tape transport | Upper drum assy | ★○ | ○ |
| | A/C head | ★○ | ★○ |
| | Lower drum motor assy | ★ | ★○ |
| | Pinch roller arm assy | ★ | ★ |
| | Full erase head | ★ | ★ |
| | Tension arm assy | ★ | ★ |
| | Guide arm assy | ★ | ★ |
| Drive | Capstan motor | | ○ |
| | Belt (Capstan) | ○ | ○ |
| | Belt (Mode motor) | | ○ |
| | Mode motor | | ○ |
| | Slit disk (supply, take-up) | | ○ |
| | Clutch unit (supply, take-up) | | ○ |
| | Worm gear assy | | ○ |
| | Control plate | | ○ |
| | Slide plate | | ○ |
| Other | Brush assy | ★○ | ★○ |
| | Tension band assy | ○ | ○ |
| | Rotary encoder | | ○ |

★ : Cleaning
○ : Inspection or Replacement if necessary

Table 2-3-1

## 2.4 DISASSEMBLY/ASSEMBLY PROCEDURE OF MECHANISM

### 2.4.1 Precaution before disassembling mechanism

This mechanism has an exclusive operation mode provided for disassembling and installation of the mechanism (MECHANISM ASSEMBLING MODE), and it is suggested to set the mechanism to this mode before disassembly and installation.The exclusive mechanism operation mode is not generally used and becomes available by manual setting only. Then this procedure starts with the condition that the cabinet parts,cassette housing assy and PRE/REC board assy have been removed.

### 2.4.2 How to set the exclusive mechanism operation mode (MECHANISM ASSEMBLING MODE)

(1) Turn the mode motor belt by hand.
(2) Confirm that the hole of the control cam are aligned to the deck hole as shown in Fig.2-4-1.

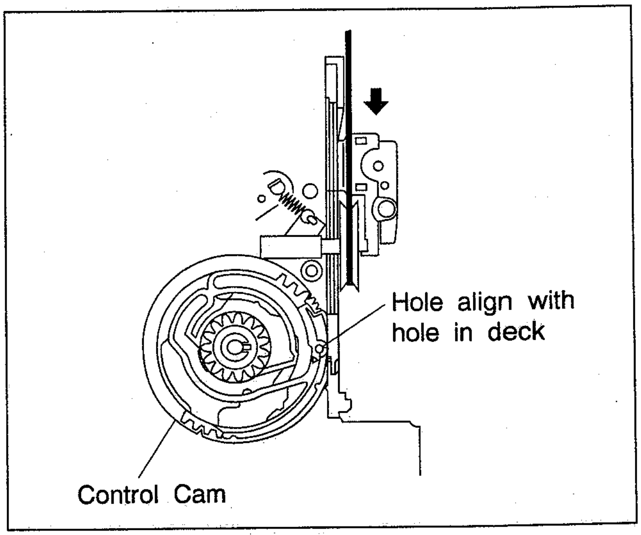


Fig. 2-4-1

## 2.5 MAIN PARTS REPLACEMENT OF MECHANISM

### 2.5.1 Pinch Roller Arm ASSY

(1) Remove the slit washer.
(2) Tilt up the pinch roller assy in direction of arrow.

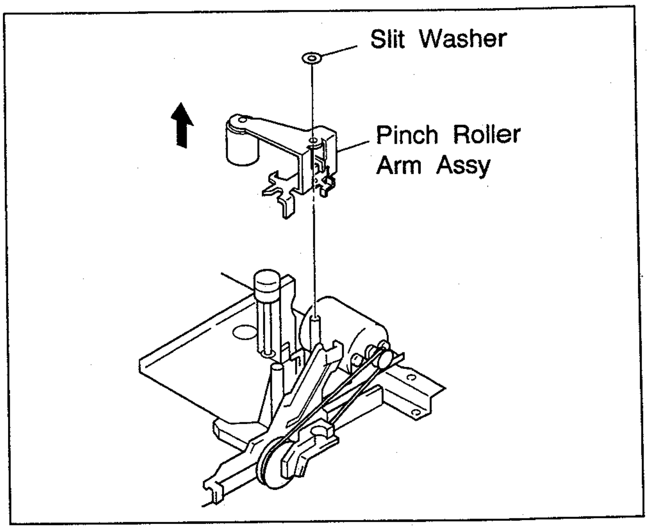


Fig.2-5-1

### 2.5.2 A/C Head

**1. Removal**

(1) Take out 2 screws (A).

(2) Remove the A/C head with head base.

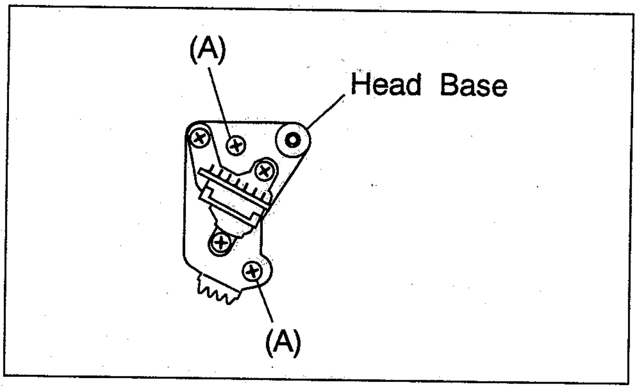

(A)
Head Base
(A)

Fig.2-5-2

(3) When replacing the A/C head only,remove 3 screws (B), use care not to misplace the 3 springs.

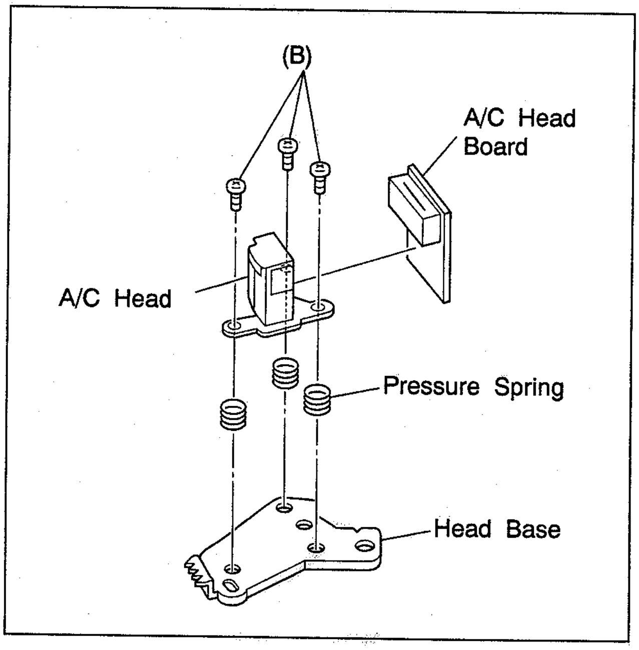

(B)
A/C Head Board
A/C Head
Pressure Spring
Head Base

Fig.2-5-3

**2. Installation**

(1) Temporarily set A/C head height as indicated in Fig. 2-5-4.

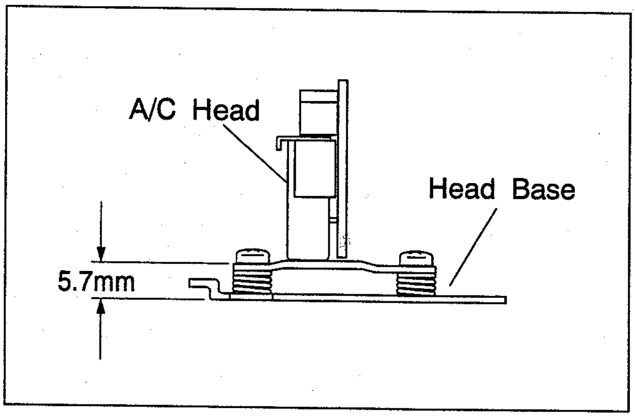

A/C Head
Head Base
5.7mm

Fig.2-5-4

**NOTES:**

- *It is very important to correctly adjust the control pulse and audio signal in addition to the mechanical tape path.*
- *Perform interchangeability adjustments after electrical adjustments.*

### 2.5.3 Pinch Plate

**1. Removal**

(1) Disengage 2 claws, then remove the pinch plate.

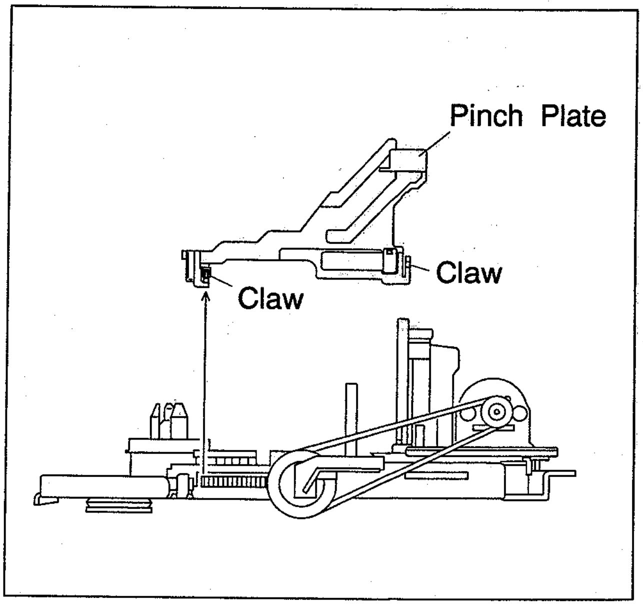

Pinch Plate
Claw
Claw

Fig.2-5-5

**2. Installation**

(1) When installing pinch plate,align rack of pinch plate and triangle mark of control cam as indicated in Fig.2-5-6.

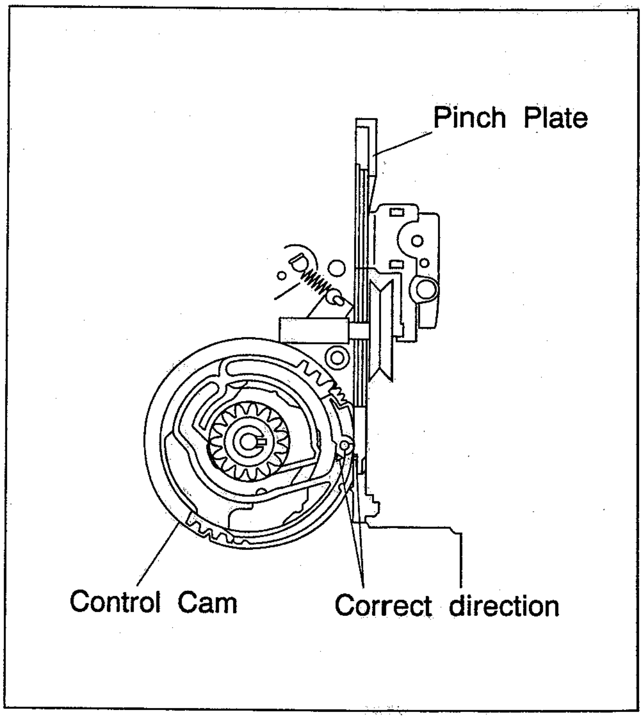

Pinch Plate
Control Cam
Correct direction

Fig. 2-5-6

### 2.5.4 Mode Motor

(1) Disengage the belt between mode motor and worm gear.
(2) Take out 2 screws (A) then remove the mode motor.

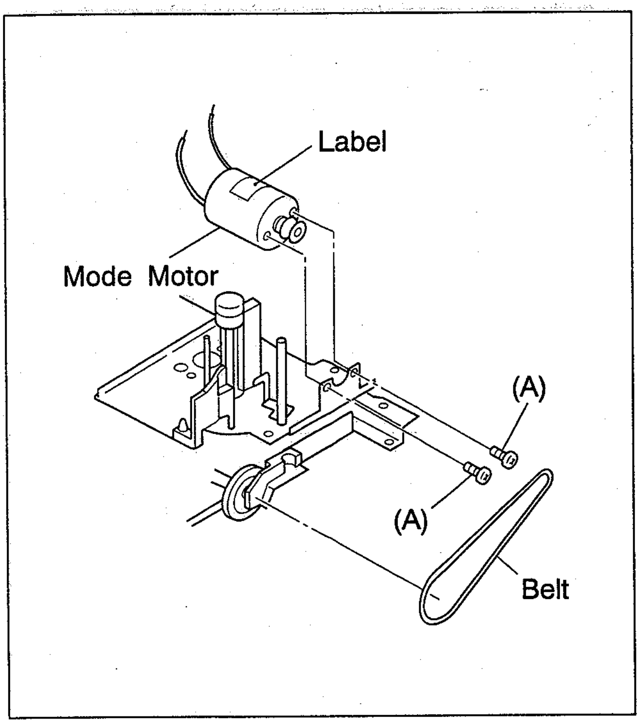

Label
Mode Motor
(A)
(A)
Belt

Fig.2-5-7

### 2.5.5 Lever Assy,Sub Deck Assy,Capstan Motor

(1) Take out 1 slit washer,then remove the lever assy.
(2) Disengage the belt( capstan motor) from bottom of mechanism assy first as indicated in Fig.2-5-10.
(3) Take out 3 screws (A) and remove the sub deck assy as indicated in Fig.2-5-8.
(4) Take out 3 screws (B) and remove the capstan motor from the sub deck assy as indicated in Fig.2-5-9.

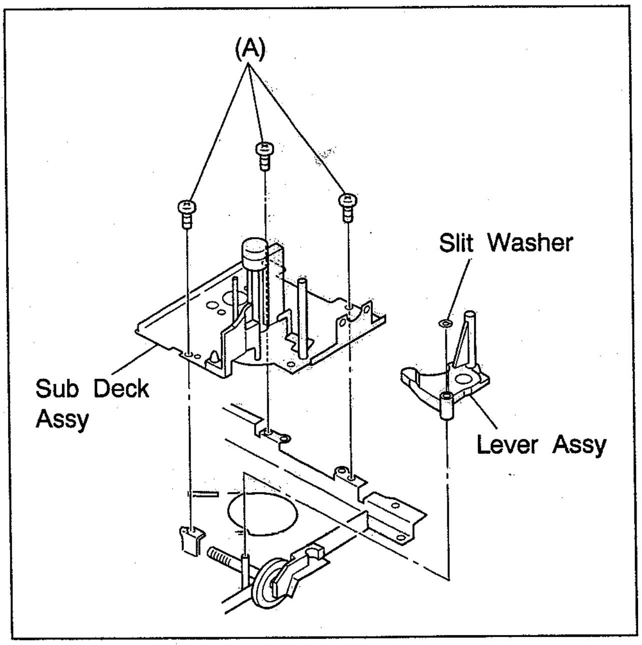

(A)
Slit Washer
Sub Deck Assy
Lever Assy

Fig.2-5-8

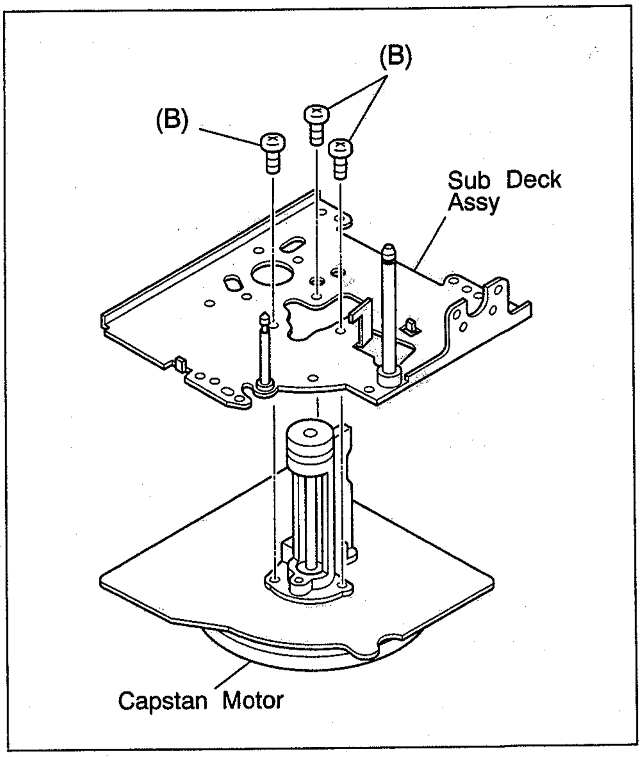

(B)
(B)
Sub Deck Assy
Capstan Motor

Fig.2-5-9

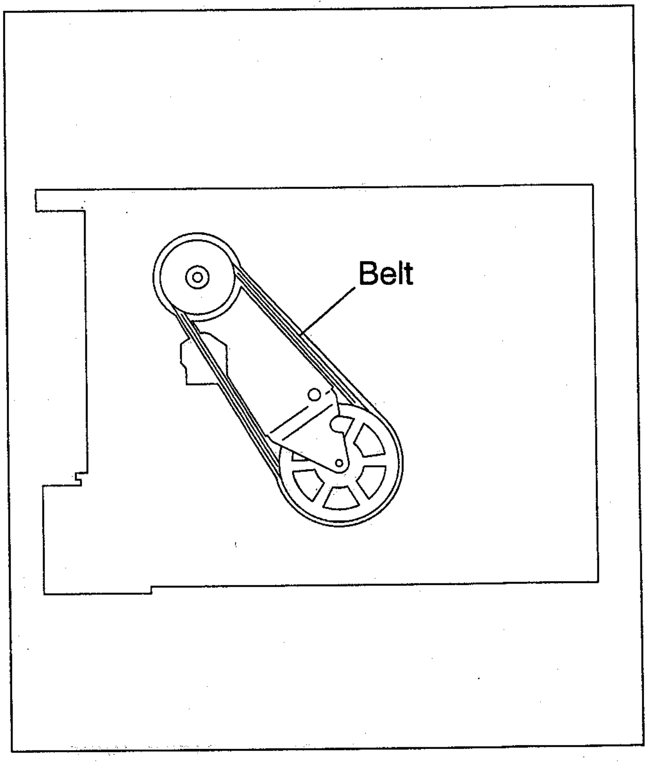


Fig.2-5-10

### 2.5.6 Control Bracket-1,Earth Pllate

(1) Take out 1 screw (A) and 1 screw (B).

(2) Remove the control bracket-1 and earth pllate.

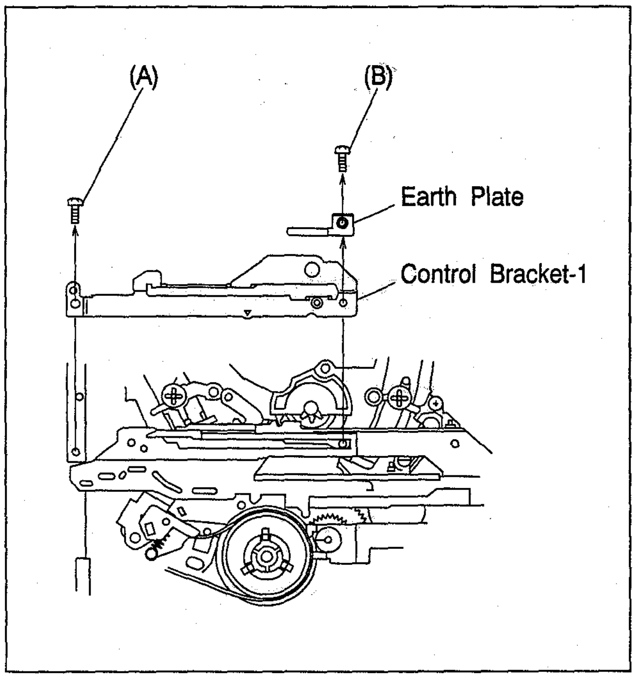

(A)
(B)
Earth Plate
Control Bracket-1

Fig.2-5-11

### 2.5.7 Reel Bracket,Slit disk (take-up)

(1) Take out 2 slit washers.

(2) Remove the reel bracket and slit disk(take-up).

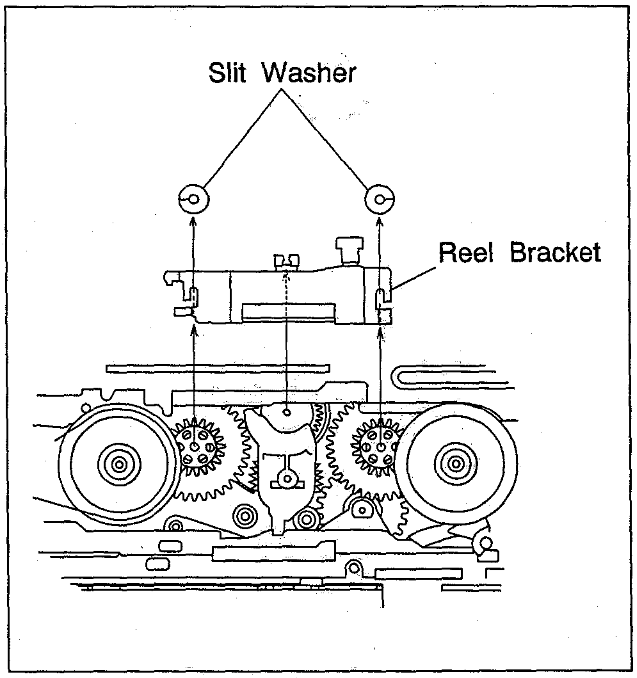

Slit Washer
Reel Bracket

Fig.2-5-12

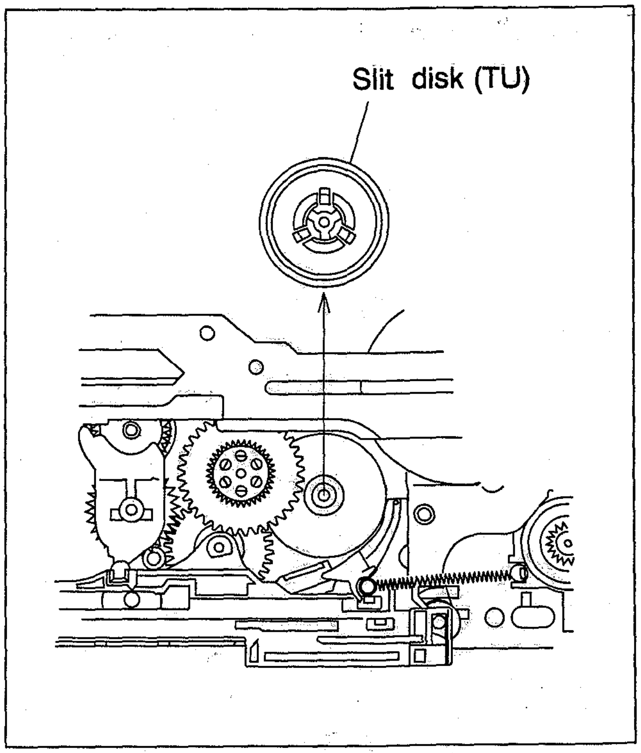

Slit disk (TU)

Fig.2-5-13

### 2.5.8 Control Bracket-2,Control Plate

(1) Take out 1 screw (A) and remove the control bracket-2.

(2) Take out 1 slit washer.

(3) Disengage 2 claws and remove the control plate.

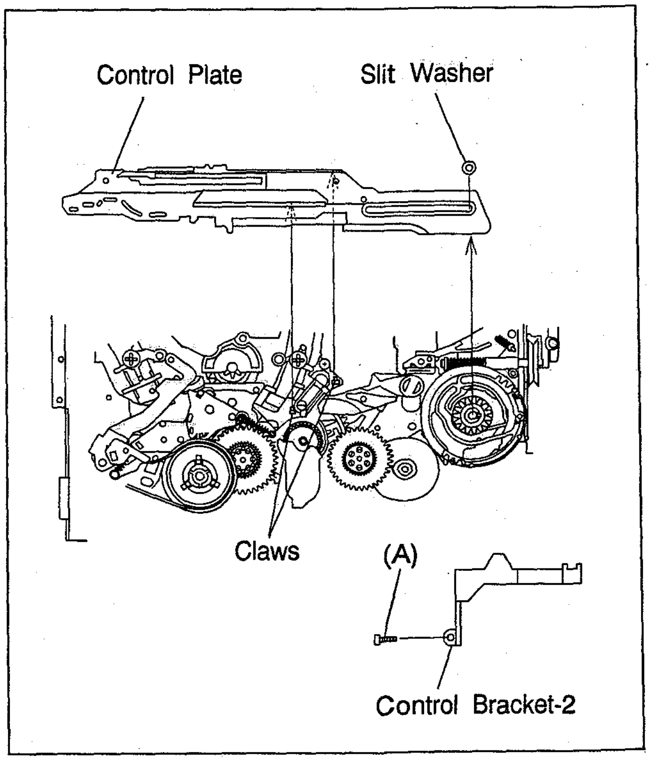

Control Plate
Slit Washer
Claws
(A)
Control Bracket-2

Fig.2-5-14

### 2.5.9 Sub Brake(take-up),Control Cam

(1) Disengage 1 spring (a) and 1 claw then remove the sub brake (take-up).

(2) Disengage 1 claw and remove the control cam.

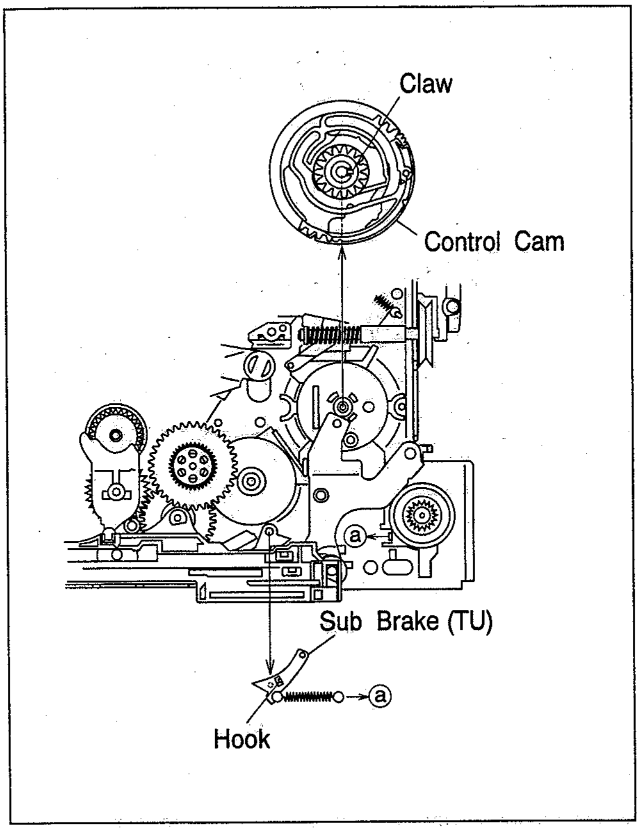

Claw
Control Cam
Sub Brake (TU)
Hook
a
a

Fig.2-5-15

### 2.5.10 Slide Plate

(1) Disengage 7 claws from bottom of the mechanism assy and remove the slide plate.

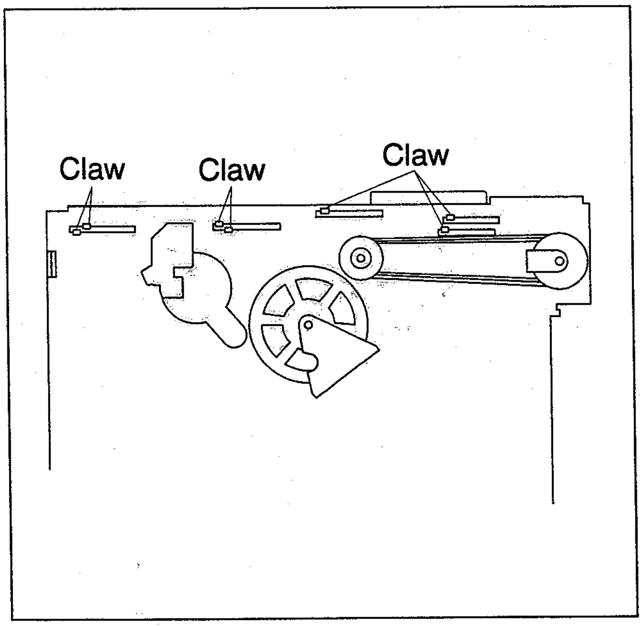

Claw
Claw
Claw

Fig. 2-5-16

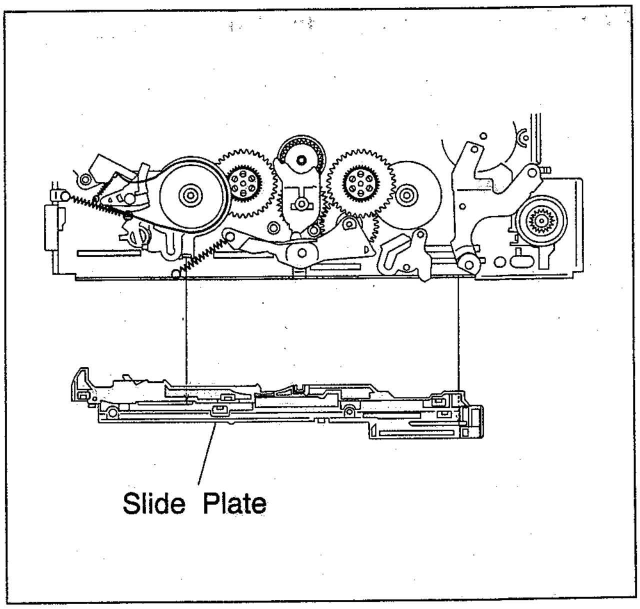

Slide Plate

Fig. 2-5-17

### 2.5.11 Change Lever,Rotary Encoder

(1) Remove the change lever.

(2) Disengage 2 claws and remove the rotary encoder.

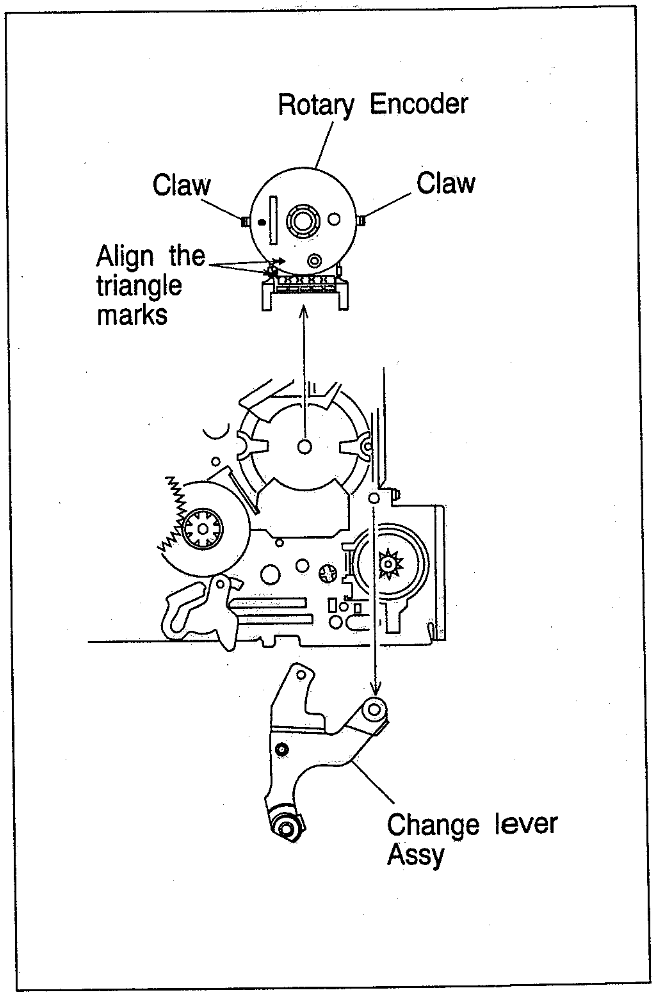

Rotary Encoder
Claw
Claw
Align the triangle marks
Change lever Assy

Fig. 2-5-18

### 2.5.12 Sub Brake (supply),Tension Band Assy,Tension Arm Assy,Take-up Lever Assy,Slit Disk(supply)

(1) Disengage 1 spring (a).
(2) Disengage 1 claw and remove the sub brake (supply).
(3) Take out 1 screw (A),spring (c) and slit washer.
(4) Remove the tension arm assy with tension band assy.
(5) Disengage 1 spring (b) and remove the take-up lever assy.
(6) Remove the slit disk(supply).

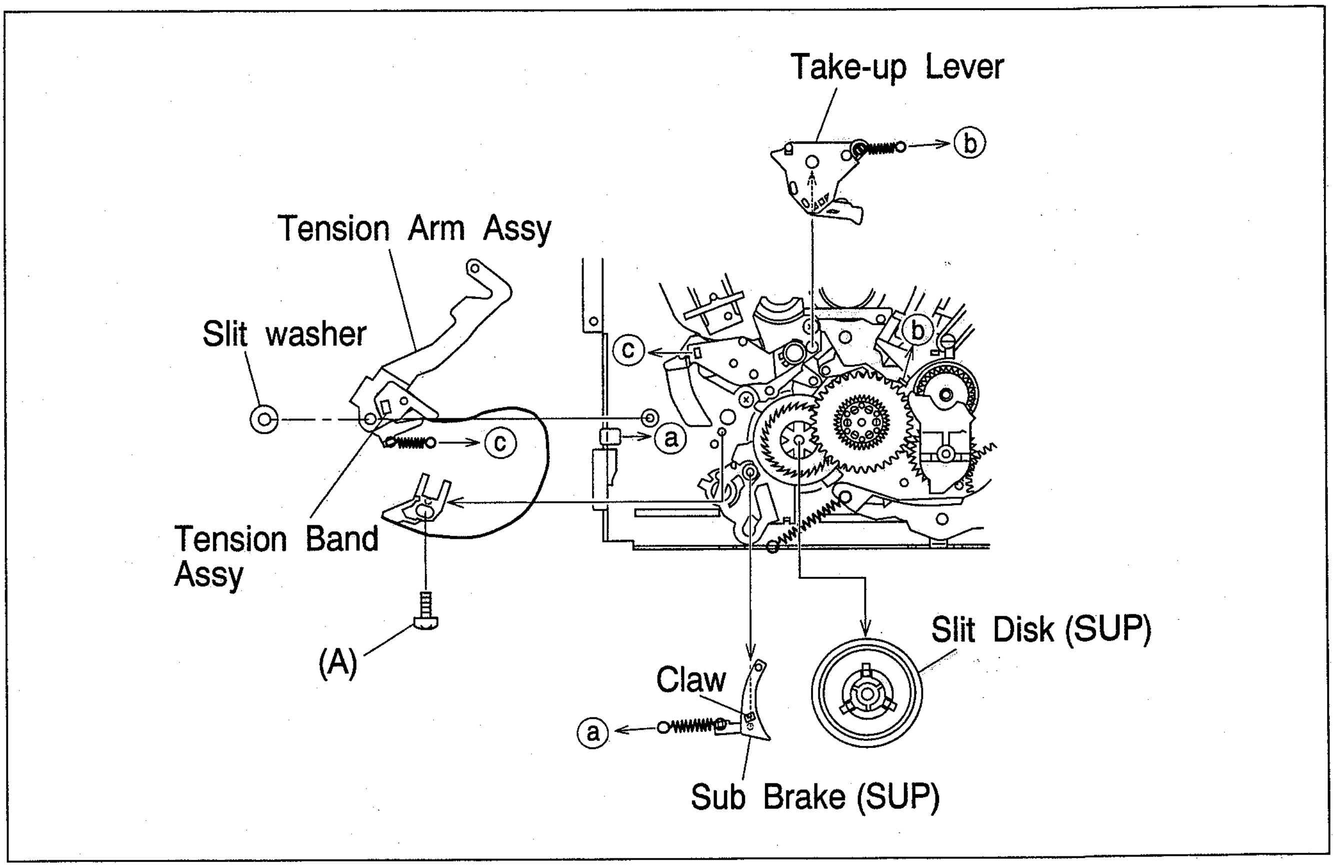

Take-up Lever
ⓑ
Tension Arm Assy
Slit washer
ⓒ
ⓑ
ⓐ
ⓒ
Tension Band Assy
(A)
Slit Disk (SUP)
Claw
ⓐ
Sub Brake (SUP)

Fig. 2-5-19

### 2.5.13 Take-up Head,Tension Arm Lever

(1) Remove the take-up head and tension arm lever.

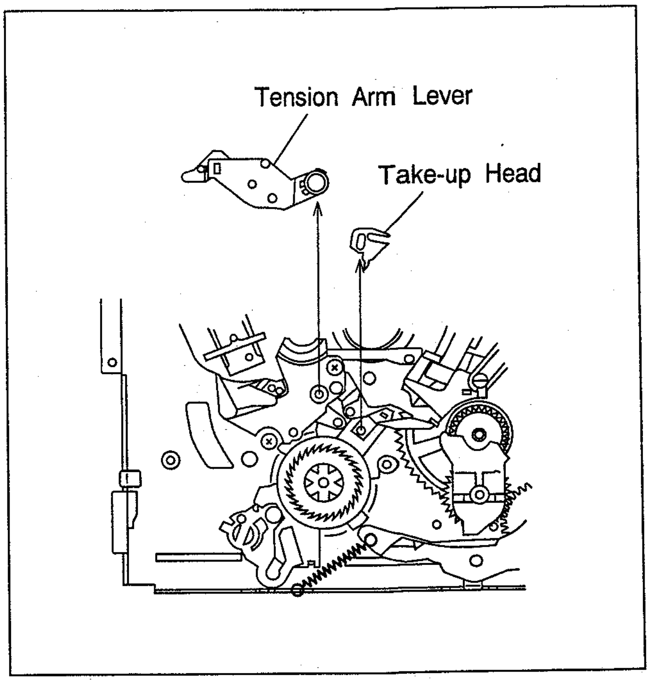
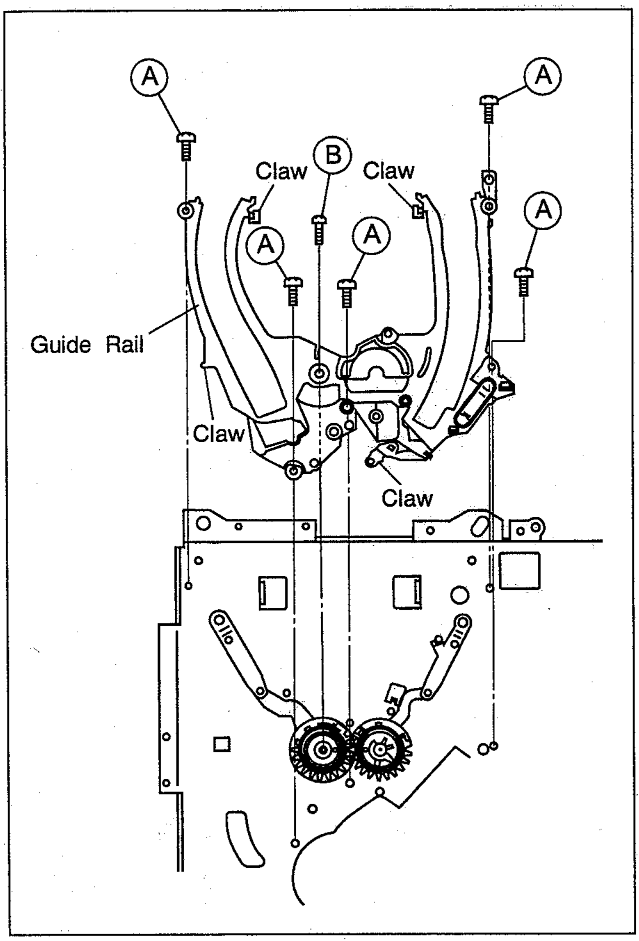

Tension Arm Lever
Take-up Head

Fig.2-5-20

### 2.5.14 Guide Rail

(1) Take out 5 screws (A) and 1 screw (B).

(2) Disengage 4 claws and remove the guide rail.



A
A
B
Claw
Claw
A
A
A
Guide Rail
Claw
Claw

Fig. 2-5-21

### 2.5.15 Stator Assy

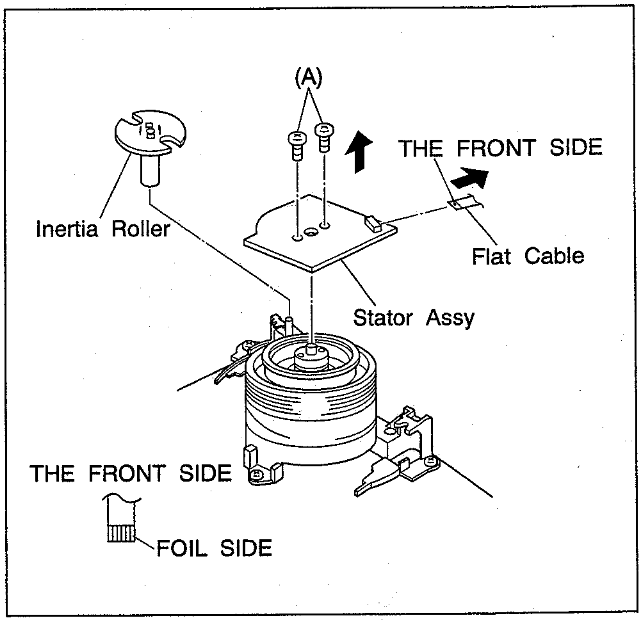
(1) Take out 2 screws (A).

(2) Raise the stator assy in the direction indicated by the arrow to remove it (also remove the inertia roller).

(3) Remove the flat cable.

(4) To reinstall,first secure the flat cable,then insert 2 screws (A).

(5) After reinstalling, be sure to perform PB switching point adjustment(See SECTION 3 ELECTRICAL ADJUSTMENT).



(A)
THE FRONT SIDE
Inertia Roller
Flat Cable
Stator Assy
THE FRONT SIDE
FOIL SIDE

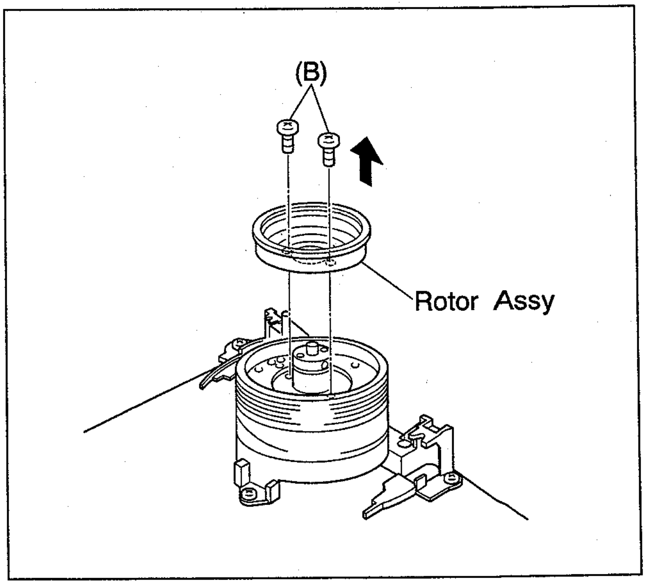
Fig. 2-5-22

**NOTE :** *When refitting the connector, check that the flat wire is inserted correctly.*

### 2.5.16 Rotor Assy

(1) Remove the stator assy.

(2) Take out 2 screws (B) and remove the rotor assy.



(B)
Rotor Assy

Fig.2-5-23

(3) Align the upper dum assy and rotor assy phase as indicated in Fig.2-5-24.
(4) Overlap holes (a) of the upper drum assy with holes (b) of the rotor assy (align holes in 3 locations) and secure with 2 screws (B) as indicated in Fig.2-5-23.

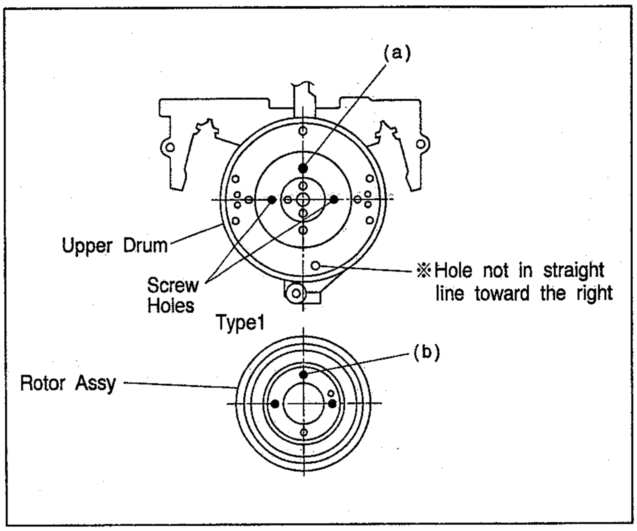

(a)
Upper Drum
Screw Holes
Type1
※Hole not in straight line toward the right
(b)
Rotor Assy

Fig. 2-5-24

### 2.5.17 Upper Drum Assy

#### 1. Removal

(1) Remove the stator assy and rotor assy.
(2) Use a 1.5 mm hexagonal wrench to loosen the collar assy screw and remove the collar assy.
(3) Remove the upper drum assy and use tweezers to remove the Washer.

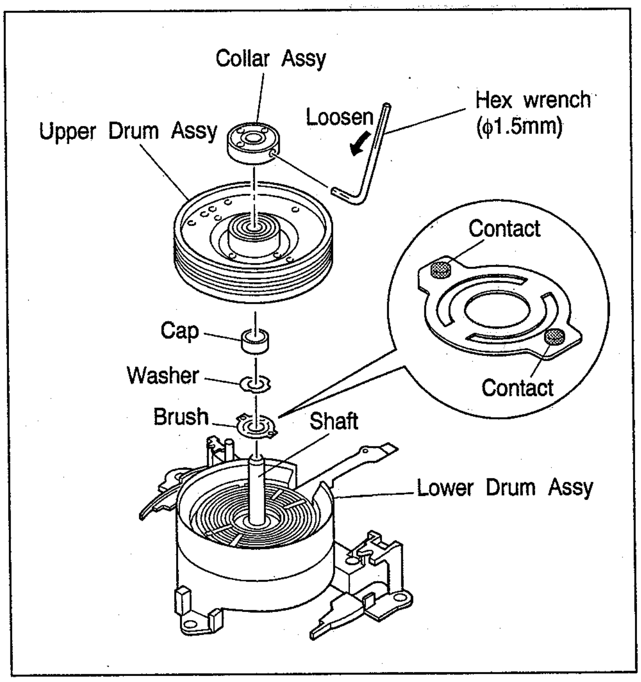

Collar Assy
Upper Drum Assy
Loosen
Hex wrench (ϕ1.5mm)
Contact
Cap
Washer
Contact
Brush
Shaft
Lower Drum Assy

Fig. 2-5-25

**NOTE :** *If the Brush is replaced, do not apply the grease to the contacts.*

#### 2. Installation

(1) Use an air brush to clean the lower drum assy and the coil section of the new upper drum assy.
(2) Set a new washer on the drum shaft as indicated in Fig.2-5-25.

**NOTE :** *Be sure to use the new washer when replace the upper drum assy.*

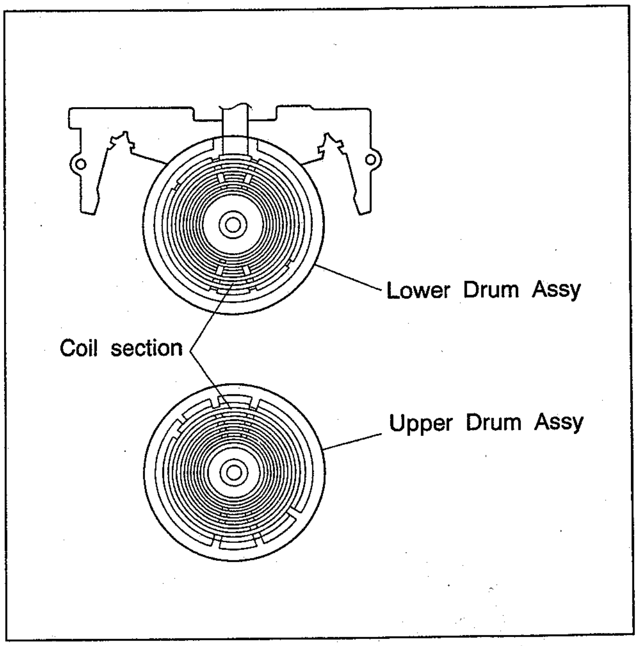

Lower Drum Assy
Coil section
Upper Drum Assy

Fig.2-5-26

(3) Note the top and bottom of the collar assy and determine the position as indicated in Fig.2-5-27.

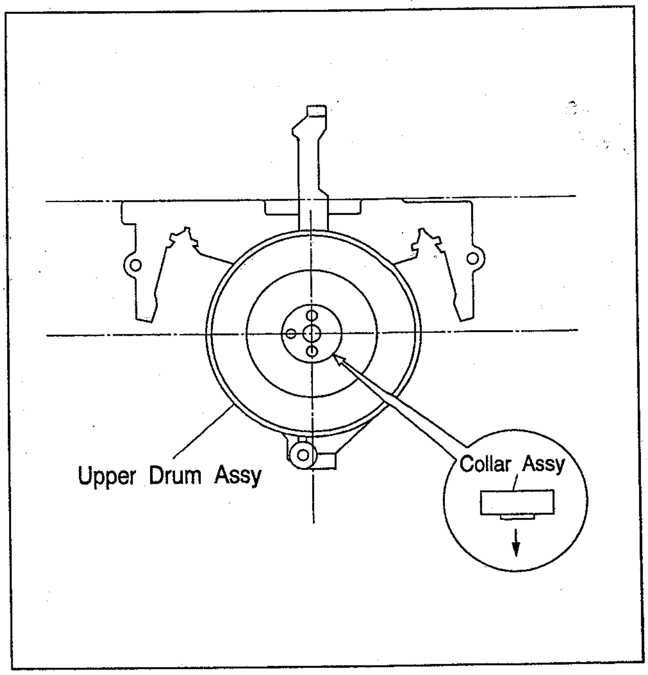

Upper Drum Assy
Collar Assy

Fig.2-5-27

(4) While pressing the collar assy evently from above with your fingertips,secure the hexagonal screw.

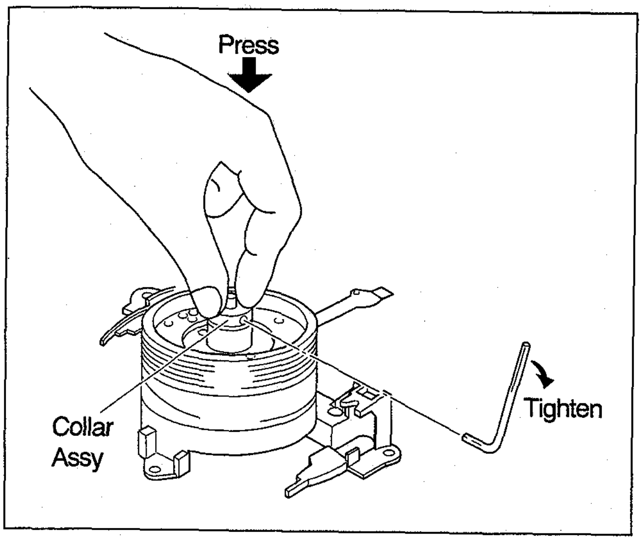

Press
Tighten
Collar Assy

Fig.2-5-28

(5) After installing,gently turn the upper drum by hand and confirm normal rotation.
(6) Install the rotar assy and stator assy.
(7) Clean the upper and lower drum assies and perform the following adjustments;
- PB switching point adjustment
- Slow tracking preset adjustment
- Interchangeability adjustment ( be sure to check EP mode)

## 2.6 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE

### 2.6.1 Precaution

The rotary encoder and syscon circuit are closely interrelated.Therefore,the rotary encoder and control cam conection determines the operations of mechanical parts such as plates,gears,brakes,etc.Correct positioning of these parts is essential for smooth tape loading and mechanical operations.

### 2.6.2 Loading Arm Assy (supply,take-up)

(1) Install the supply loading arm assy and the take-up loading arm assy so that their positioning markings on the respective gear face each other and the holes of their arms correspond to the holes on the main deck assy respectively.
(2) After setting the guide rails,engage the pole base assies with the tip of the loading arms respectively. Then,enter the mechanism into the unloading mode to return the pole base assies to the front position.
(3) Reassemble the peripheral parts of the guide rail as originally.

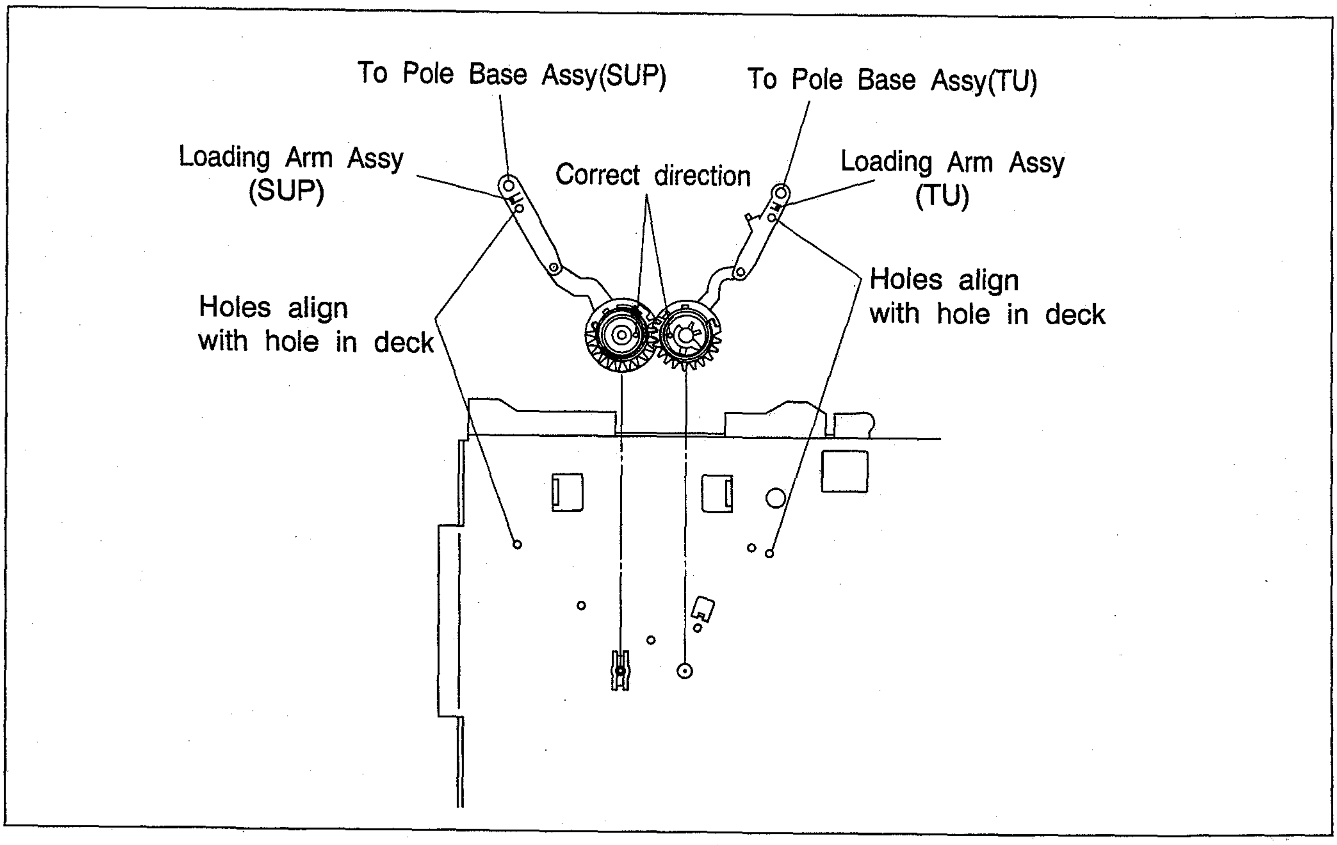

To Pole Base Assy(SUP)
To Pole Base Assy(TU)
Loading Arm Assy (SUP)
Correct direction
Loading Arm Assy (TU)
Holes align with hole in deck
Holes align with hole in deck

Fig.2-6-1

### 2.6.3 Rotary Encoder,Change Lever,Control Cam

(1) When reinstalling the rotary encoder,adjust its position so as to fit the triangle marks each other and push it deep untill it is locked by the pawls.

(2) When reinstalling the change lever,set it so as to make its positioning hole correspond to the hole of the main deck assy.

(3) When re-engaging the control cam,lower the capstan brake assy while setting it so as to make its positioning hole correspond to the hole of the main deck assy.

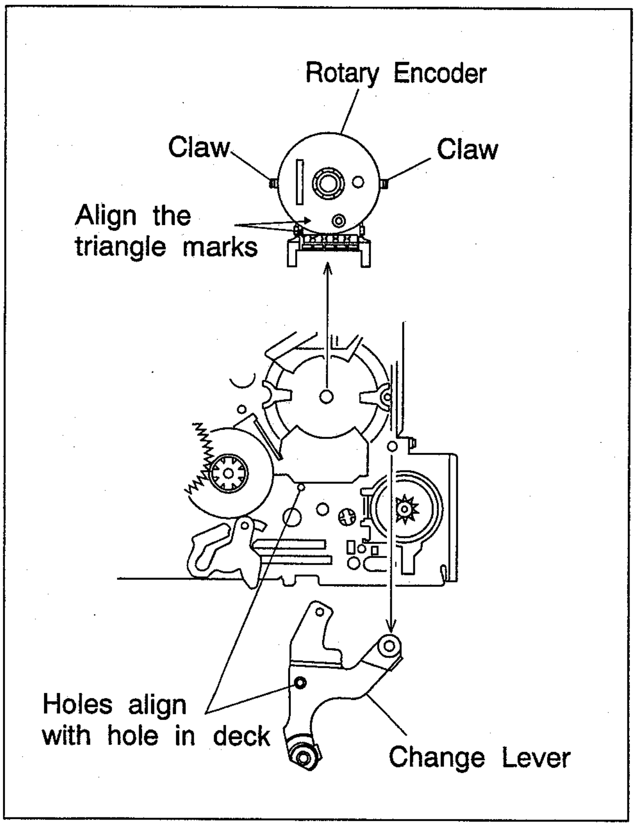

Rotary Encoder
Claw
Claw
Align the triangle marks
Holes align with hole in deck
Change Lever

Fig. 2-6-2

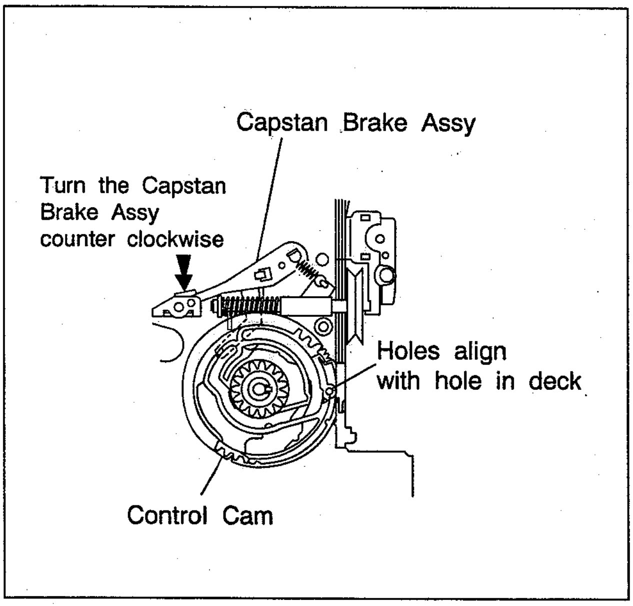

Capstan Brake Assy
Turn the Capstan Brake Assy counter clockwise
Holes align with hole in deck
Control Cam

Fig. 2-6-3

### 2.6.4 Slide Plate

(1) Lower both the main brake assies (supply and take-up) untill they touch the edge of the main deck assy while reinstalling the slide plate so as to make the respective positioning holes of the main brake assies correspond to the holes on the main deck assy.

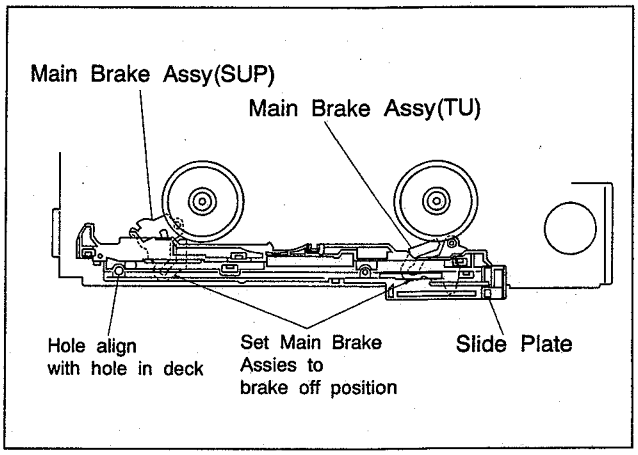

Main Brake Assy(SUP)
Main Brake Assy(TU)
Hole align with hole in deck
Set Main Brake Assies to brake off position
Slide Plate

Fig.2-6-4

### 2.6.5 Control Plate

(1) Reinstall the control plate so as to set the two positioning holes of it on the holes on the main deck assy respectively and to set the positioning hole of the take-up lever on the hole of the main deck at the same time. When adjusting the hole position of the take-up lever,use a pair of tweezers to hold and move it since it is pulled by a tension spring.

(2) After reinstalling the control plate,fix it with the slit washer,control bracket-1 and -2.

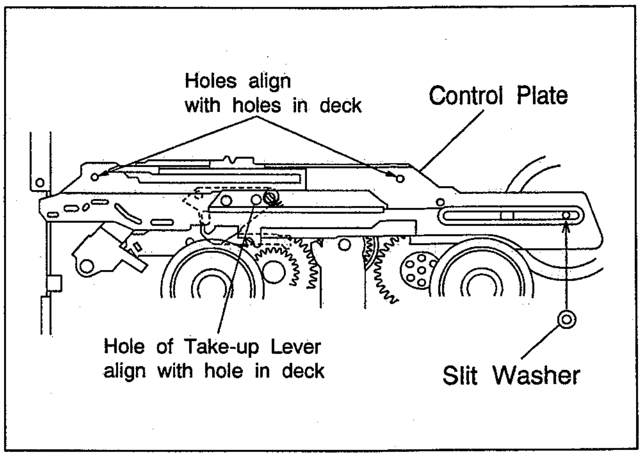

Holes align with holes in deck
Control Plate
Hole of Take-up Lever align with hole in deck
Slit Washer

Fig. 2-6-5

## 2.7 TAPE INTERCHANGEABILITY ADJUSTMENT

**NOTE :** 
- *This adjustment is extremely important. However, it is normally not required during routine service. Perform only after replacing major components(A/C head,upper/lower drum assy,pole base assy,etc).*
- *Before using costly alignment tape,use a spare tape and confirm correct operation of the tape transport.*

### 2.7.1 Tape pattern

(1) Connect the oscilloscope to TP6(PB FM) on the PRE/REC board.Use TP11(D.FF) on the PRE/REC board as a trigger.

(2) Playback the SP stairstep portion of the alignment tape [MHP ].Confirm that the FM waveform appears as indicated in Fig.2-7-1.

(3) Set the manual tracking position by simultaneously pressing the CH "–" and "+" buttons.

(4) Operate the tracking adjustment (press the CH buttons during playback) and set for maximum playback FM waveform.

(5) By operating the CH button,vary the FMwaveform from maximum to minimum and vice versa to confirm that the waveform varies nearly in a flat shape as shown in Fig.2-7-1.

(6) When the FM waveform does not remain flat during this process,first slightly loosen the set screw located at the bottom of the guide rollers.Using the guide roller adjustment tool (Roller driver) ,adjust the supply and take-up guide rollers (refer to Fig.2-7-2) to obtain the correct waveform as indicated in Fig.2-7-3.

(7) By pressing the CH buttons several times,vary the FM waveform output from maximum to minimum (and vice versa) gradually,and confirm that the variation proceeds in flat shape, as shown in Fig.2-7-3.

(8) Next playback the EP stairstep portion of the alignment tape [MHP-L ] and adjust the tracking control from maximum to minimum the FM waveform,confirm that FM waveform variation is always flat.

(9) Record the signal and play it back in both of the SP and EP mode,confirm that the FM waveform is flat in both mode.

(10) After adjustments,tighten the set screw of the guide rollers.

(11) Confirm that the tape wrinking does not occur at the roller upper or lower limits as indicated in Fig.2-7-4.

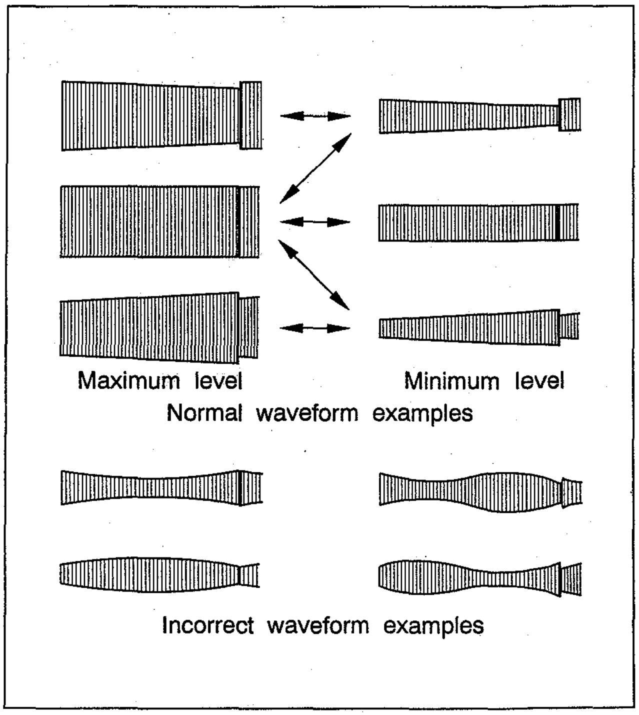


Fig. 2-7-1

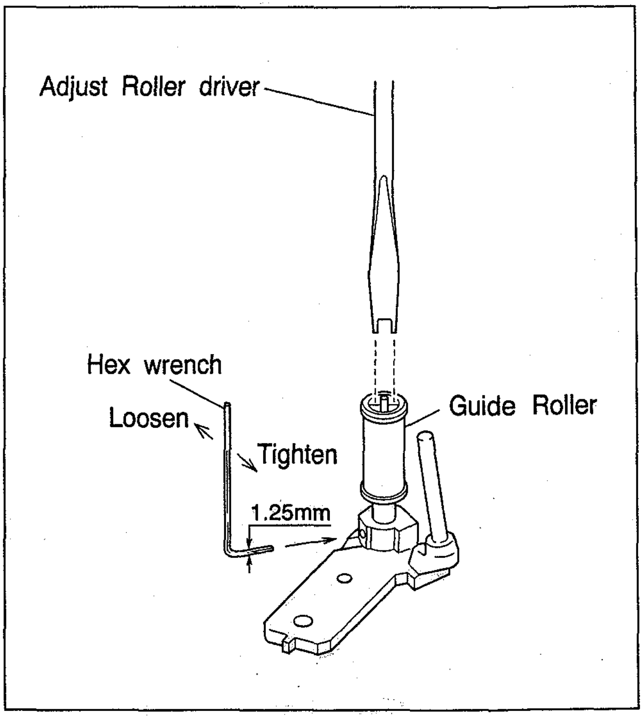


Fig. 2-7-2

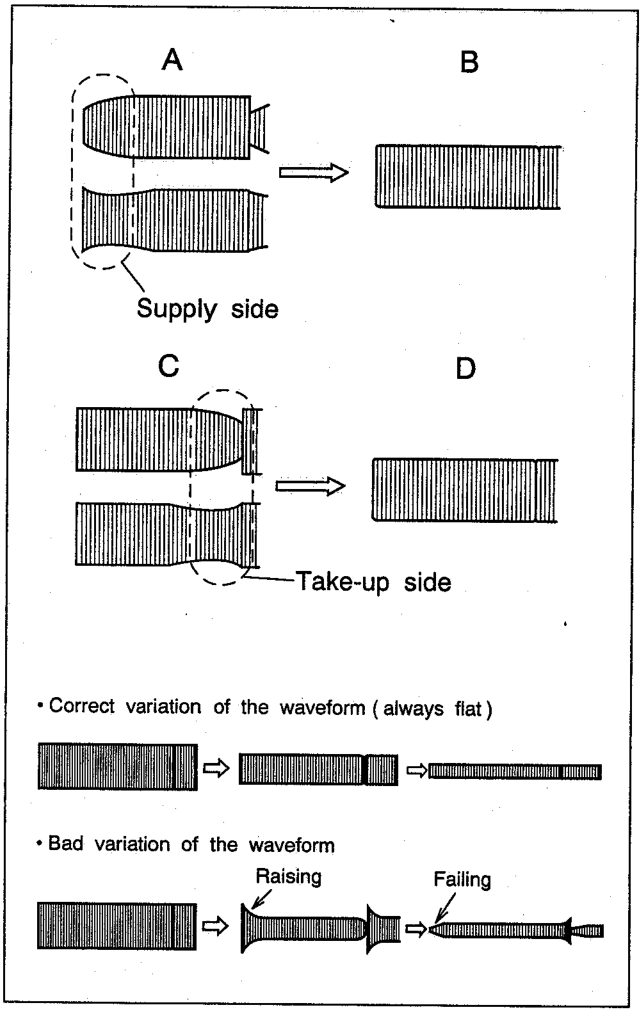

A
B
Supply side
C
D
Take-up side
• Correct variation of the waveform ( always flat )
• Bad variation of the waveform
Raising
Failing

Fig. 2-7-3

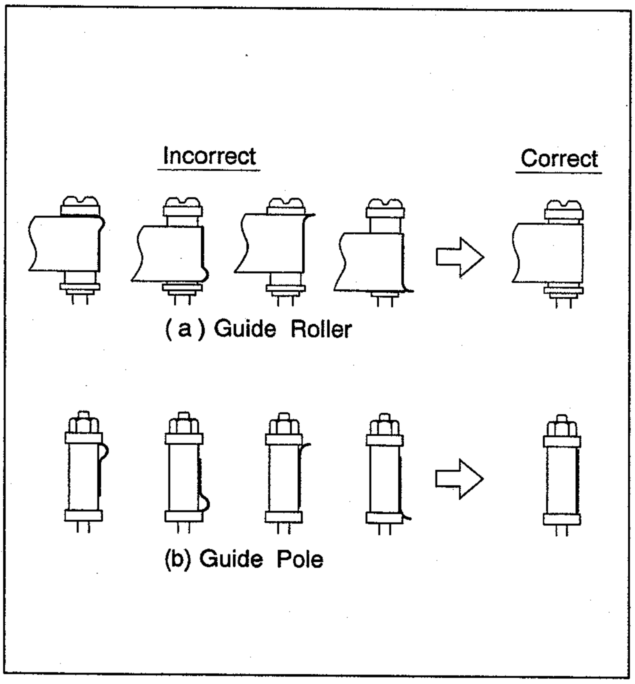

Incorrect
Correct
( a ) Guide Roller
(b) Guide Pole

Fig. 2-7-4

### 2.7.2 A/C head height & azimuth

**NOTE** :
- *Temporarily set A/C head height as indicated in Fig. 2-5-4.*
- *Use spare tape to check the transport and confirm the tape is not scratched or damaged.*

**1. Tilt**

(1) Use spare tape and set for playback.

(2) Turn screw (3) clockwise to where the tape curls just slightly at the TU guide pole bottom flange as shown in Fig.2-7-5.

(3) Then slowly turn screw (3) counterclockwise to where the curling ceases.

**2. Height**

(1) Connect CH-1 of a dual trace oscilloscope to Audio Out.

(2) Connect CH-2 to TP401( CTL PULSE) of the Main board assy and use the ALT mode.

(3) Playback the SP stairstep portion of the alignment tape [MHP].

(4) Adjust screws (1),(2) and (3) for maximum audio output and control pulse level.

**3. Azimuth**

(1) Connect the oscilloscope to Audio Out.

(2) Playback the SP stairstep portion of the alignment tape [MHP].

(3) Adjust screw (2) so that the audio output is both maximum and with minimum fluctuation.

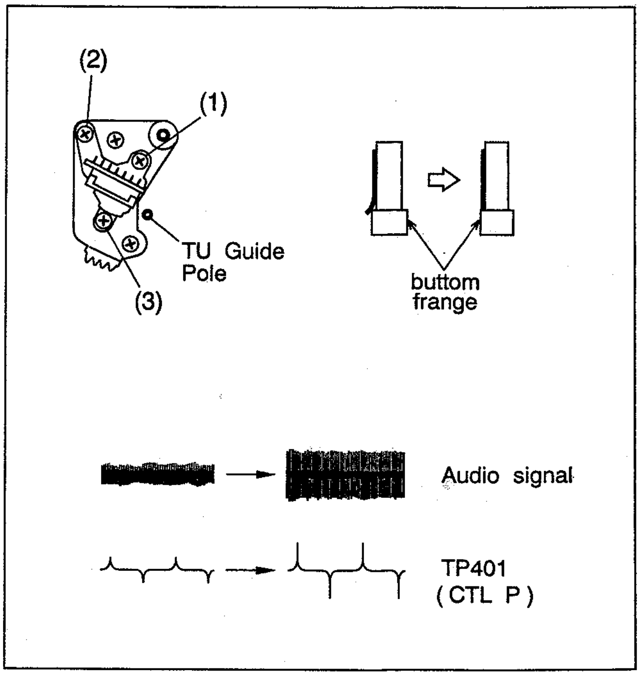

(2)
(1)
TU Guide Pole
(3)
buttom frange
Audio signal
TP401 (CTL P)

Fig. 2-7-5

### 2.7.3 A/C head phase(X-value)

(1) Connect the oscilloscope to TP6(PB FM) on the PRE/REC board.Use TP11(D.FF) on the PRE/REC board as a trigger.
(2) Playback the SP stairstep portion of the alignment tape [MHP].
(3) Set the neutral manual tracking position by simultaneously pressing the CH "–" and "+" buttons.
(4) If adjustment is required,slightly loosen screws (4) and (5). Set A/C head positioning tool on the A/C head adjusting boss as indicated in Fig.2-7-6.
(5) Turn the tool first to position the A/C head fully toward the capstan. Then gradually return it toward the drum and stop at the position of maximum FM waveform output level as shown in Fig.2-7-7.
(6) Tighten screw (5). Remove the tool and tighten screw (4).
(7) Eject the SP alighnment tape [MHP] and then re-insert the EP alignment tape [MHP-L].
(8) Playback the EP stairstep portion of the alignment tape [MHP-L].
(9) Set the neutral manual tracking position by simultaneously pressing the CH "–" and "+" buttons.
(10) Confirm maximum playback FM waveform output level as shown in Fig.2-7-7.
(11) If not maximum,slightly loosen the screws (4) and (5). Use the tool and adjust the head position for the nearest maximum point. Then tighten screws (4) and (5).

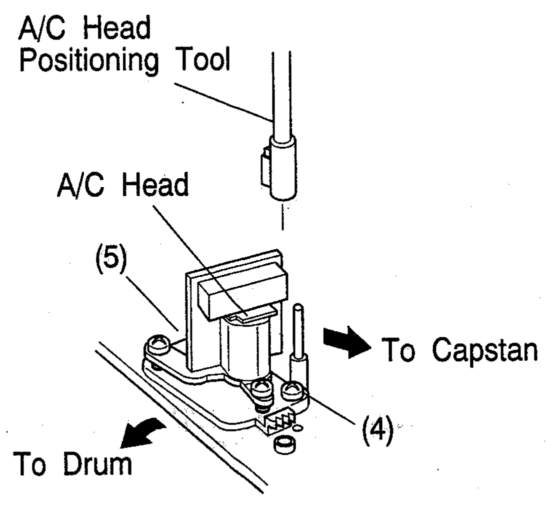


Fig. 2-7-6

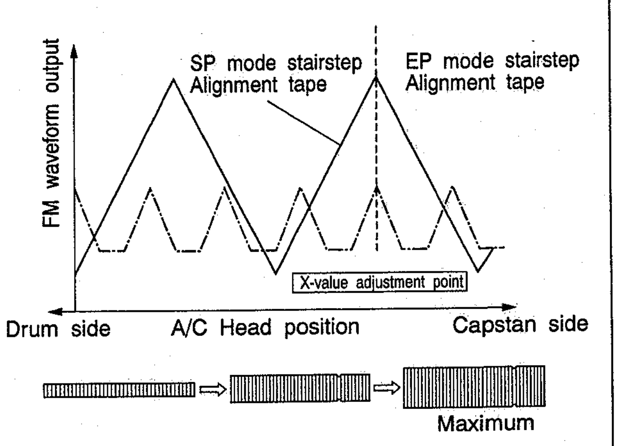


Fig. 2-7-7

### 2.7.4 EP mode auto tracking

**NOTE :** *Set VCR to the mode A by remote controller.*

(1) Playback the EP stairstep portion of the alignment tape [MHP-L].
(2) Confirm that the Automatic tracking indication [AT] stops flashing and remains on.
(3) Press the "D" button on the presetting unit [PTU94008] to turn off the Automatic tracking indication [AT].
(4) Press the "D" button again to change the mode to the EP interchangeability adjustment mode and confirm that Automatic tracking indication [AT] stops flashing and goes off.
(5) If the alignment tape ejects automatically, repeat the A/C head phase adjustment (X-value).

### 2.7.5 Tension pole position

(1) Set for playback mode using MECHANISM SERVICE MODE(See SECTION 1 DISASSEMBLY).
(2) Slightly loosen the screw (A) .
(3) Turn the adjust pin so that the tension arm assy does not touch ϕ2.5 pole on the outside.
(4) Tighten the screw (A).
(5) After adjustment,use the back tension cassette gauge and set for the playback mode.
(6) Confirm reading of 29 to 46 g•cm.

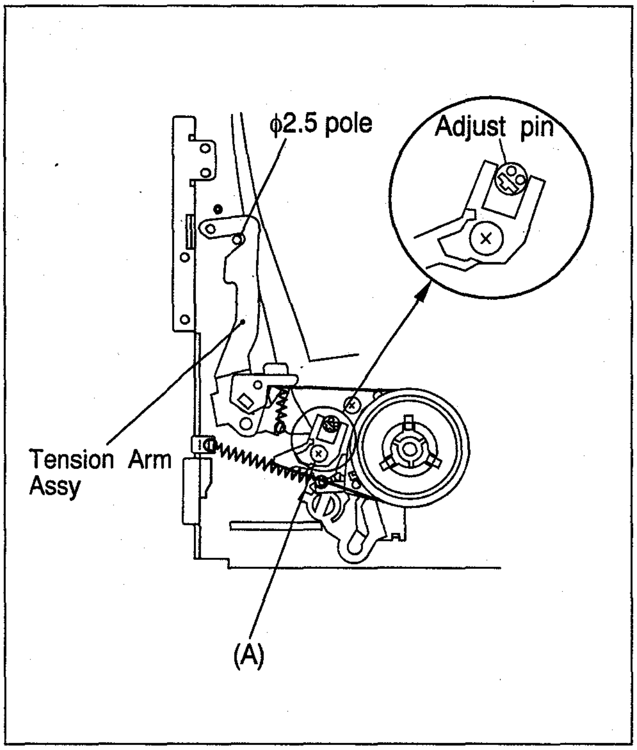


Fig. 2-7-8

### 2.7.6 Take-up torque

(1) Use the back tension cassette gauge and set for the playback mode.
(2) Confirm reading of 60 to 100 g•cm.

# SECTION 3
# ELECTRICAL ADJUSTMENT

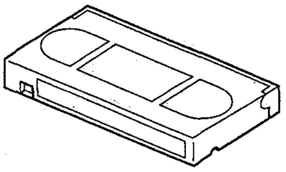
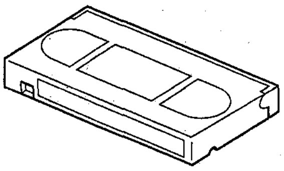
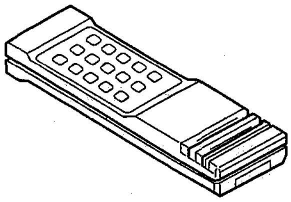
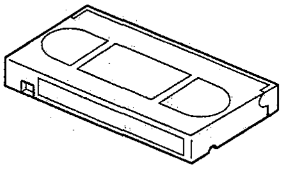
## 3.1 PRECAUTION

Electrical adjustment are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also do not attempt these adjustments unless the proper equipments is availagle.

### 3.1.1 Required test equipment

① Color television or monitor
② Oscilloscope: wide-band,dual-trace,triggered delayed sweep
③ Frequency counter
④ Digital voltmeter
⑤ Signal generator: RF/IF sweep/maker
⑥ Signal generator: NTSC color bar, stairstep
⑦ Recording tape
⑧ Digit-key remote controller(provided)

### 3.1.2 Required adjustment tools

| Alignment tape<br>(SP,stairstep)<br>MHP | Alignment tape<br>(SP,color bar)<br>MHV-2 |
|---|---|
|  |  |
| Presetting unit<br>PTU94008 | Alignment tape<br>(S-VHS SP/EP color bar)<br>MH-1H |
|  |  |

### 3.1.3 Color bar signal,color bar pattern

● Color bar signal

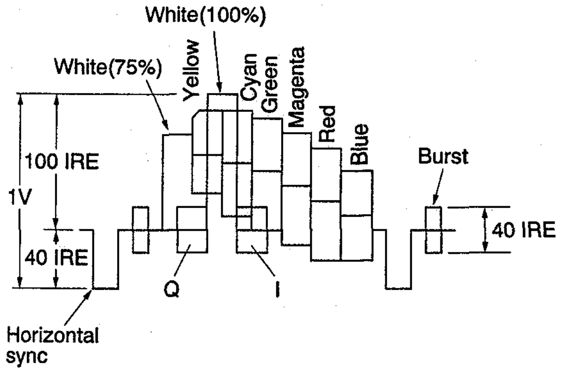

White(100%)
White(75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst
100 IRE
1V
40 IRE
40 IRE
Q
I
Horizontal sync

Fig.3-1-1 Color bar signal waveform

● Color bar pattern

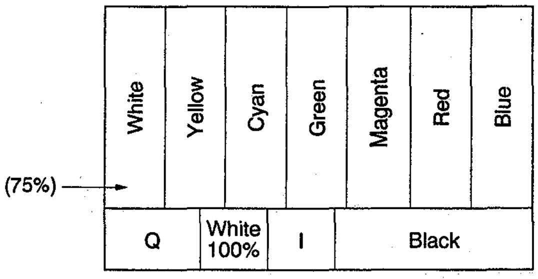

White
Yellow
Cyan
Green
Magenta
Red
Blue
(75%)
Q
White 100%
I
Black

Fig.3-1-2 Color bar pattern

### 3.2 SWITCHING REGULATOR CIRCUIT

**Note:** • *Unless otherwise specified, all measurement points and adjustment parts are located on the MAIN BOARD.*

#### 3.2.1 5V DC output voltage

| | |
|---|---|
| Signal | • AUX<br>• TUNER |
| Mode | • REC : SP |
| Equipment | • Digital voltmeter |
| Measurement point | • B201 (SWD 5V) |
| Adjustment part | • R885 (SWD 5V) |
| Specification | • 5.22 ± 0.10V DC |

(1) Connect a digital voltmeter to B201 (left of the R885) and GND.
(2) Adjust R885 for 5.22 ± 0.10V DC.

### 3.3 SERVO CIRCUIT

**Notes:** • *Unless otherwise specified,all measurement point and adjustment parts are located on the MAIN BOARD.*
- *Set VCR to the mode A by remote controller.*
- *Use only buttons "E" and "F", depressing other buttons during adjustment may cause adjustment errors.*

#### 3.3.1 PB switching point

| | |
|---|---|
| Signal | • Alignment tape [MHP],Stairstep |
| Mode | • PB,Automatic tracking OFF |
| Equipment | • Oscilloscope |
| Measurement point | • VIDEO OUT TERMINAL |
| Trigger slope (-) | • TP11(DRUM FF) , [PRE/REC BOARD] |
| Adjustment tool | • Presetting unit [PTU94008] |
| Specification | • 6.5 ± 0.5H |

(1) Connect an oscilloscope to VIDEO OUT TERMINAL and external trigger from TP11 (negative slope).
(2) Playback the stairstep signal of the alignment tape.
(3) Set the tracking control to the center position by simultaneously pressing the CH "+" and "−" buttons.
(4) Adjust by pressing "E" or "F" buttons of presetting unit for position the trigger point 6.5 ± 0.5 H from V.sync.
(5) Depress the STOP button.

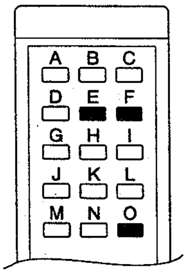


Fig.3-3-1 Presetting unit

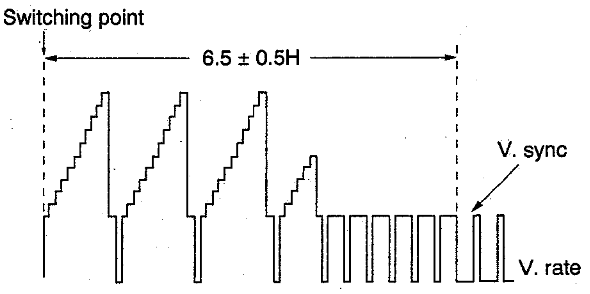


Fig.3-3-2 PB switching point

Alternate method
(1) Playback the stairstep signal of the alignment tape.
(2) Press the "O" button of the presetting unit.
(3) Confirm that VCR mode becomes STOP mode.

#### 3.3.2 Slow tracking preset

| | |
|---|---|
| Signal | • Tuner or color bar |
| Mode | • SP/EP, REC → PB(SLOW)<br>Automatic tracking OFF |
| Equipment | • TV-Monitor |
| Adjustment tool | • Presetting unit [PTU94008] |
| Specification | • Minimum noise |

**Notes:** • *Set VCR to the mode A by remote controller.*
- *Use only buttons "B" and "C", depressing other buttons during adjustment may cause adjustment errors.*

(1) Record a color bar signal in the SP mode.
(2) Playback recorded signal on the FWD slow mode.
(3) Set the tracking control to the center position by simultaneously pressing the CH "+" and "−" buttons.
(4) Observe the display on the TV monitor and adjust for optimum noise condition (best tracking) by depressing "B " or "C " buttons of the presetting unit.
(5) Depress the STOP button.
(6) Confirm that the bar noise is not visible on the TV monitor in the slow mode.
(7) Repeat steps (2) to (6) in REV slow mode.
(8) Repeat steps (1) to (7) in EP mode.

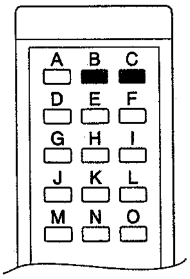


Fig.3-3-3 Presetting unit

## 3.4 VIDEO CIRCUIT

**Notes:**
- *Unless otherwise specified,all measurement point and adjustment parts are located on the MAIN BOARD.*
- *VIDEO circuit adjustments are performed by the EVR system by use of the presetting unit and digit-key remote controller.*
- *S-INPUT means Y/C separated video signal in the chart.*
- *Set VCR to the mode A by remote controller.*
- *Set DYNAMIC CONTRAST to off mode. (HR-S7200U only)*

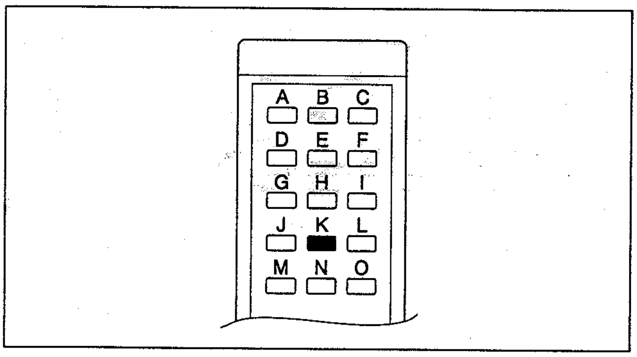
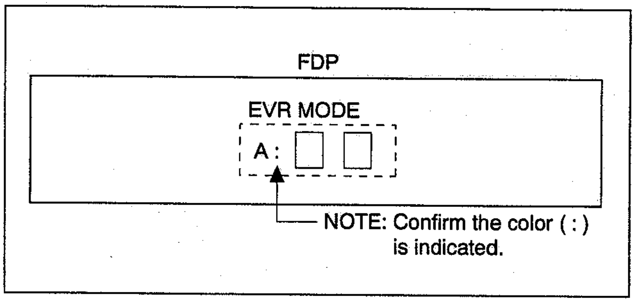


Fig.3-4-1 Presetting unit



NOTE: Confirm the color ( : ) is indicated.

Fig.3-4-2 EVR mode

### 3.4.1 AGC Y LEVEL

| | |
|---|---|
| Signal | • Color bar |
| Mode | • EE<br>• S-VHS |
| Equipment | • Oscilloscope |
| Measurement point | • VIDEO OUT TERMINAL |
| Adjustment tool | • Presetting unit [PTU94008], Digit-key remote controller |
| EVR mode | • A : 11 |
| Specification | • 1.00 ± 0.03Vp-p (terminated) |

(1) Connect an oscilloscope to VIDEO OUT TERMINAL.
(2) Set EVR mode by pressing "K" button of the presetting unit more than 2 seconds.
(3) Set "A : 11" pressing 1 digit key twice of the remote controller.
(4) Adjust CH "–" or "+" button for 1.00 ± 0.03 Vp-p.
(5) Set normal VCR mode by pressing "K" button of the presetting unit again so adjustment data is memorized.

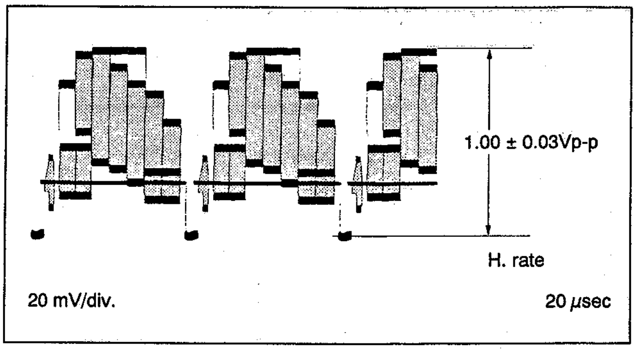


Fig. 3-4-3 EE Y level

### 3.4.2 WHITE/DARK CLIP (S-VHS/VHS)

| | |
|---|---|
| Signal | • Color bar |
| Mode | • EE<br>• S-VHS/VHS |
| Equipment | • Oscilloscope |
| Measurement point | • CN202 pin 8 (W/D CLIP) |
| Adjustment tool | • Presetting unit [PTU94008], Digit-key remote controller |
| EVR mode | • A : 14 |
| Specification | • WHITE CLIP : 110 ± 4%(S-VHS)<br>90 ± 4%(VHS)<br>DARK CLIP : 70 ± 8%(S-VHS)<br>45 ± 8%(VHS) |

(1) Connect an oscilloscope to CN202 pin 8.
(2) Set EVR mode by pressing "K" button of the presetting unit more than 2 seconds.
(3) Set "A : 14" pressing 1 and 4 digit keys of the remote controller.
(4) Adjust CH "–" or "+" button for 110 ± 4%(S-VHS), 90 ± 4%(VHS) white clip and 70 ± 8%(S-VHS), 45 ± 8%(VHS) dark clip as shown in Fig.3-4-4.
(5) Set normal VCR mode by pressing "K" button of the presetting unit again so adjustment data is memorized.

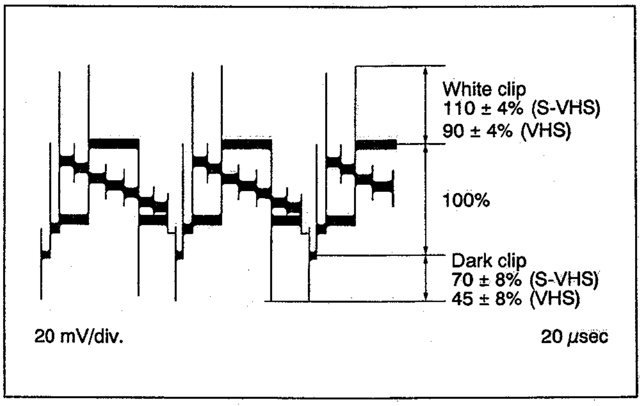


Fig.3-4-4 Whate/dark clip

### 3.4.3 SUB EMPHASIS INPUT LEVEL

| | |
|---|---|
| Signal | • Color bar |
| Mode | • EE<br>• S-VHS |
| Equipment | • Oscilloscope |
| Measurement point | • CN202 pin 17 (SUB EMPHASIS) |
| Adjustment tool | • Presetting unit [PTU94008], Digit-key remote controller |
| EVR mode | • A : 15 |
| Specification | •400 ± 20 mVp-p |

(1) Connect an oscilloscope to CN202 pin 17.
(2) Set EVR mode by pressing "K" button of the presetting unit more than 2 seconds.
(3) Set "A : 15" pressing 1 and 5 digit keys of the remote controller.
(4) Adjust CH "–" or "+" button of the remote controller for 400 ± 20 mVp-p.
(5) Set normal VCR mode by pressing "K" button of the presetting unit again so adjustment data is memorized.

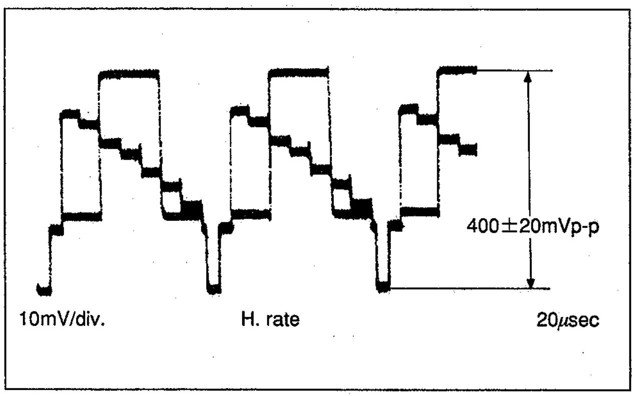


Fig. 3-4-5 Sub emphasis input level

### 3.4.4 PB Y LEVEL (S-VHS/VHS)

| | |
|---|---|
| Signal | • Alignment tape [MHV-2, MH-1H],<br>• Color bar |
| Mode | • PB |
| Equipment | • Oscilloscope |
| Measurement point | • VIDEO OUT TERMINAL |
| Adjustment tool | • Presetting unit [PTU94008], Digit-key remote controller |
| EVR mode | • A : 11 |
| Specification | •1.00 ± 0.03Vp-p (terminated) |

(1) Connect an oscilloscope to VIDEO OUT TERMINAL.
(2) Set EVR mode by pressing "K" button of the presetting unit more than 2 seconds.
(3) Set "A : 11" pressing 1 digit key twice of the remote controller.
(4) Playback the color bar signal of the alignment tape. (MH-1H and MHV-2)
(5) Adjust CH "–" or "+" button for 1.00 ± 0.03Vp-p as shown in Fig.3-4-6.
(6) Set normal VCR mode by pressing "K" button of the presetting unit again so adjustment data is memorized.

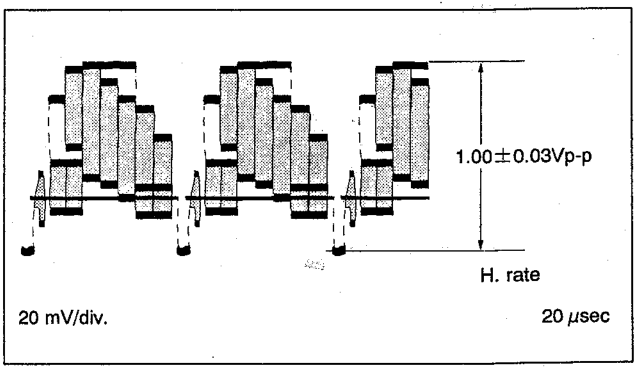


Fig.3-4-6 PB Y level

### 3.4.5 SP/EP REC COLOR LEVEL

| | |
|---|---|
| Signal | • Alignment tape [MH-1H]Color bar |
| Mode | • PB (SP/EP)<br>• REC → PB : SP/EP<br>• S-VHS |
| Equipment | • Oscilloscope |
| Measurement point | • PB color out |
| Trigger slope ( – ) | • TP11 (DRUM FF) [PRE/REC board] |
| Adjustment tool | • Presetting unit [PTU94008], Digit-key remote controller |
| EVR mode | • A : 2 |
| Specification | • "B" x 130 ± 5% : SP<br>• "B" x 100 ± 5% : EP |

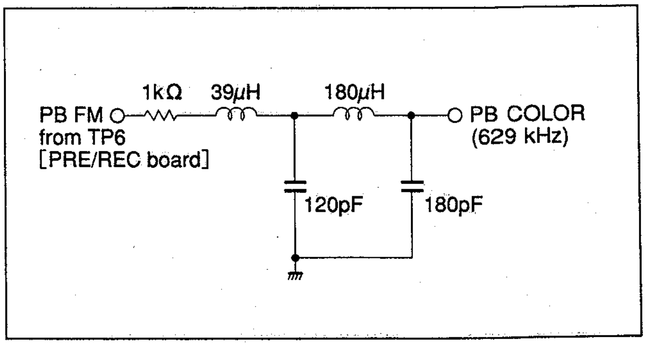


Fig. 3-4-7 LPF

(1) Use a LPF as shown in Fig. 3-4-7.
(2) Playback the SP (EP) color bar signal of MH-1H alignment tape.
(3) Set the tracking of the Front panel to the Auto tracking off position by simultaneously pressing the CH "−" and "+" buttons.
(4) Adjust by pressing the CH "−" or "+" buttons of the Front panel for maximum level of the color waveform and make a note of the higher color level "B".
(5) Press the STOP/EJECT button and eject the MH-1H alignment tape.
(6) Set EVR mode by pressing "K" button of the presetting unit more than 2 seconds.
(7) Set "A : 2" by pressing 2 numeric key of the remote controller.
(8) Record a color bar signal in SP (EP) mode, and playback recorded color bar signal.
(9) Before recording, adjust CH "−" or "+" button of the remote controller so that the higher level channel becomes 130 ± 5% : SP (120 ± 5% : EP) of the note "B" level during playback as shown in Fig. 3-4-8.
(10) Set normal VCR mode by pressing "K" button again so adjustment data is memorized.

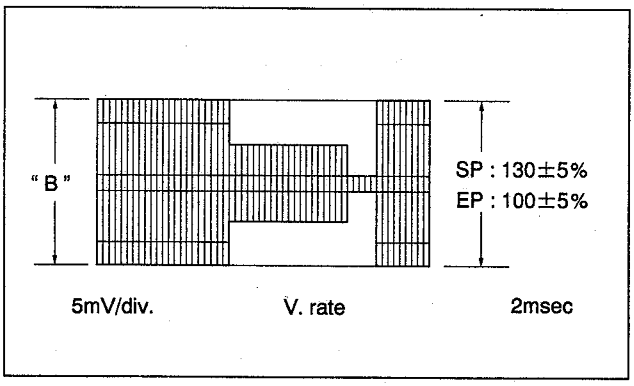


Fig. 3-4-8 REC color level

### 3.4.6 S-VHS VIDEO EQ

| | |
|---|---|
| Signal | •S INPUT<br>•Video sweep |
| Mode | •REC → PB : SP/EP<br>•S-VHS<br>•AUto tracking : OFF |
| Equipment | •Oscilloscope |
| Measurement point | •Y OUT TERMINAL |
| Adjustment prat | •R113 (S-SP VIDEO EQ) [PRE/REC board]<br>•R114 (S-EP VIDEO EQ) [PRE/REC board] |
| Specification | •3.2 ± 0.2 scale R113 : SP<br>•2.8 ± 0.2 scale R114 : EP |

(1) Connect an oscilloscope to Y OUT TERMINAL.
(2) Record a video sweep signal in S-VHS SP mode, then play it back.
(3) If the sweeper's 100 kHz marker frequency is for 4 scale divisions on the oscilloscope screen, adjust R113 so that 3.58 MHz marker level becomes 3.2 ± 0.2 scale divisions.
(4) Record a video sweep signal in S-VHS EP mode, then play it back.
(5) If the sweeper's 100 kHz marker frequency is for 4 scale divisions on the oscilloscope screen, adjust R114 so that 3.58 MHz marker level becomes 2.8 ± 0.2 scale divisions.

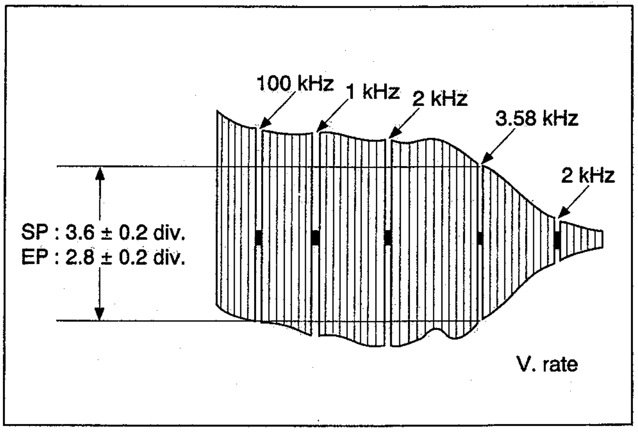


Fig. 3-4-9 S-VHS VIDEO EQ

**Alternate method**

(1) Record a color bar signal in S-VHS SP mode,
(2) Play it back to observe the picture and adjust R113 for best resolution, without impaired S/N.
(3) So after adjustment, confirm black or white spot.
(4) Record a color bar signal in S-VHS EP mode.
(5) Play it back to observe the picture and adjust R114 for best resolution, without impaired S/N.
(6) So after adjustment, confirm black or white spot.

### 3.4.7 AFC CLOCK

**Note:** *For the following adjustments, use 1 : 1 probe with input capacitance less than 100 pF.*

| | |
|---|---|
| Signal | • No signal |
| Mode | • EE<br>• AUX |
| Equipment | • Frequency counter |
| Measurement point | • TP301 round (Fh) or IC305 pin 15 |
| Adjustment part | • R309 (Fh) |
| Specification | • 15.73 ± 0.10 kHz |

(1) Connect the frequency counter to TP301 round and GND.
(2) Adjust R309 for 15.73 ± 0.10 kHz.

## 3.5 ON SCREEN CIRCUIT

**Notes:**
- *Unless otherwise specified,all measurement point and adjustment parts are located on the MAIN BOARD.*
- *Set VCR to the mode A by remote controller.*

### 3.5.1 Dot clock

| | |
|---|---|
| Signal | • Color bar or tuner |
| Mode | • EE |
| Equipment | • TV-monitor |
| Adjustment tool | • Presetting unit [PTU94008] |
| Specification | • Charactor center |

(1) Press the MENU button and display the onscreen character.
(2) Observe TV-monitor and center position of character by pressing "H" button of the presetting unit.

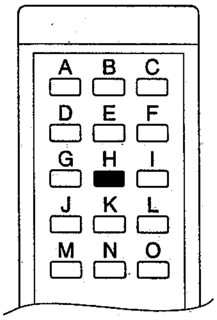


Fig.3-5-1 Dot clock

## 3.6 SYSCON CIRCUIT

**Notes:**
- *Unless otherwise specified,all measurement point and adjustment parts are located on the MAIN BOARD.*
- *When performing this adjustment,remove the MECHANISM assy.*

### 3.6.1 Timer clock

| | |
|---|---|
| Signal | • No signal |
| Mode | • EE |
| Equipment | • Frequency counter |
| Measurement point | • IC601 pin 64 |
| Adjustment part | • C601 (TIMER CLOCK) |
| Specification | • 1024.008 ± 0.001 Hz<br>[976.5549 ± 0.0010 usec] |

(1) Connect the frequency counter to IC601 pin 64 and GND.
(2) Connect the short wire between IC601 pin 33 and IC601 pin 63.
(3) Short the leads of capacitor C610 once in order to reset IC601.
(4) Disconnect the short wire then connect it again quickly.
(5) Adjust C601 for 1024.008 ± 0.001 Hz.
(976.5549 ± 0.0010 usec)

## 3.7 AUDIO CIRCUIT

**Note:** *Unless otherwise specified, all measurement point and adjustment parts are located on the PRE/REC BOARD.*

| | |
|---|---|
| Signal | • AUX<br>• VIDEO : Color bar<br>• Audio : No signal |
| Mode | • REC → PB : EP<br>• S-VHS |
| Equipment | • Oscilloscope |
| Measurement point | • TP53 (A. PB FM) |
| Trigger slope ( – ) | • TP11 (DRUM FF) |
| Adjustment part | • R216 (A. REC FM LEVEL) |
| Specification | • 90 ± 10 mVp-p |

(1) Connect an oscilloscope to TP53.
(2) Record a color bar signal without an audio signal in S-VHS EP mode then playback.
(3) Adjust R216 for 90 mVp-p playback level of higher channel level before recording.
(4) Confirm that the lower channel level is more than 60 mVp-p.

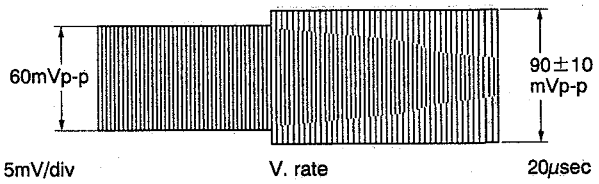


Fig. 3-7-1 Audio REC FM level

### 3.7.1 REC LEVEL CTL

| | |
|---|---|
| Signal | • AUX<br>• 1 kHz, –8 dBs |
| Mode | • EE |
| Equipment | • Audio oscillator |
| Adjustment tool | • R67 (AUDIO LEVEL) [MAIN board] |
| Specification | • –8 dBs ± 2 dBs |

(1) Connect an audio oscillator to AUDIO OUTPUT terminal.
(2) Set the Hi-Fi REC LEVEL CONTROL to "MANUAL" position on the on screen mode.
(3) Adjust R67 so that the audio output level becomes –8 dbs ± 2 dbs.

## 3.8 TUNER CIRCUIT

**Note:** *Unless otherwise specified, all measurement point and adjustment parts are located on the IF UNIT.*

| | |
|---|---|
| Signal | • TV broadcasting |
| Mode | • Tuner |
| Equipment | • TV monitor |
| Measurement point | • IF UNIT |
| Adjustment tool | • IF VR |
| Specification | • Minimum noise |

**Note:** *Adjust IF VR (RF AGC) to correct for excess noise in the picture or when streaks cross interference occurs bue to strong electrical fields.*

(1) Adjust IF VR to minimize noise or streaks on the TV screen.
(2) Adjust for noisy picture with strong signal. Then adjust until noise just disappears. Select other channels to confirm proper pick-up of channels.

## 3.9 Y/C SEP CIRCUIT

**Note:** *Unless otherwise specified, all measurement point and adjustment parts are located on the Y/C SEP BOARD.*

### 3.9.1 DIGITAL I/O LEVEL

| | |
|---|---|
| Signal | • Color bar |
| Mode | • EE<br>• S-VHS |
| Equipment | • Oscilloscope |
| Measurement point | • JP102 pin 6 (Y/V To SEP)<br>• JP102 pin 8 (SEPAD Y1)<br>[DIGITAL SUB board] |
| Adjustment part | • R68 (DIGITAL I/O LEVEL) |
| Specification | • Equal level |

(1) Connect the channel (CH-1) of a dual trace oscilloscope to JP102 pin 6 and the other channel (CH-2) to JP102 pin 8.
(2) Set the oscilloscope for DUAL mode, and overlap the waveform.
(3) Adjust R68 for equal Y levels.

## 3.10 DEMODULATOR CIRCUIT

**Note:** *Unless otherwise specified, all measurement point and adjustment parts are located on the DEMODULATOR BOARD.*

### 3.10.1 Stereo VCO adjustment

| | |
|---|---|
| Signal | • No signal |
| Mode | • EE |
| Equipment | • Frequency counter |
| Measurement point | • IC101 pin 23 |
| Adjustment part | • R126 (STEREO VCO) |
| Specification | • 15.73 ± 0.01 kHz |

(1) Connect the 20 kΩ resistor between IC101 pin 10 and IC101 pin 13.
(2) Adjust R126 for 15.73 ± 0.05 kHz.

### 3.10.2 Low pass filter adjustment

| | |
|---|---|
| Signal | • No signal |
| Mode | • EE |
| Equipment | • Oscilloscope |
| Measurement point | • IC101 pin 14 |
| Adjustment part | • R124 (FILTER) |
| Specification | • Minimize |

(1) Connect a oscilloscope to IC101 pin 14.
(2) Adjust R124 for minimum waveform.

### 3.10.3 Stereo separation adjustment

<Factor Method>

| | |
|---|---|
| Signal | • Sweep generator output (96 dBμ, 1 kHz) |
| Mode | • EE |
| Equipment | • Oscilloscope |
| Measurement point | • IC101 pin 29 |
| Adjustment part | • R107 (SEPARATION-1)<br>• R109 (SEPARATION-2) |
| Specification | • Minimize |

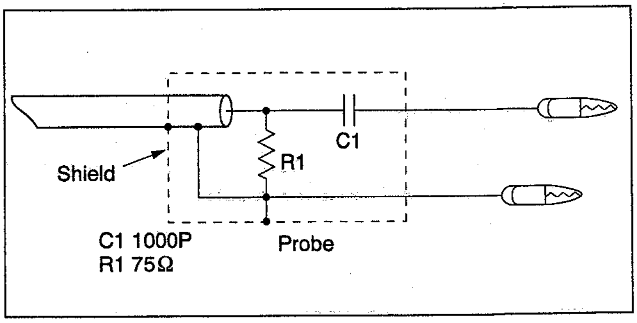


Fig. 3-10-1 Sweeper probe

(1) Use a sweeper probe shown in Fig. 3-10-1.
(2) Supply 300 Hz L-only modulated IF signal to IF terminal of U/V tuner (front end).
(3) Connect an oscilloscope to IC101 pin 29.
(4) Adjust R107 for minimum output level.
(5) Supply 5 kHz L-only modulated IF signal to IF terminal of U/V tuner (front end).
(6) Connect an oscilloscope to IC101 pin 29.
(7) Adjust R109 for minimum output level.

# SECTION 4
# CHARTS AND DIAGRAMS

## SCHEMATIC DIAGRAM NOTES

**Safety precautions**
**The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufactures recommended parts.**

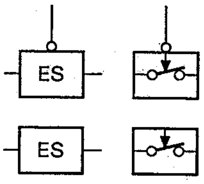
### 1. Schematic diagram values

Unless otherwise specified.

1) All resistance values are in ohms. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in μF, (P: PF).
3) All inductance values in μH, (m: mH).
4) All diodes are 1SS133 or MA165, (refer to parts list).

### 2. Indications

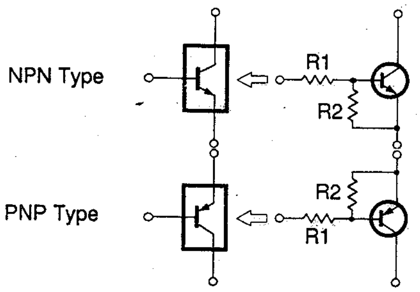
AUX : Active only at high.
$\overline{\text{AUX}}$ : Active only at low.



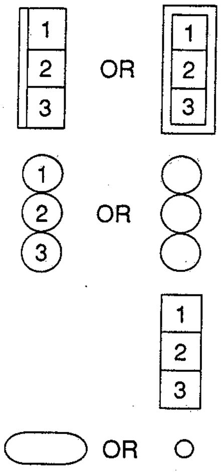
Active only at low for electronic switch.

Active only at high for electronic switch.

**Digital transistor :**
The digital transistor includes built in resistors.
It features small size and high reliability.



### 3. Interpreting Connector indications



Removable connector

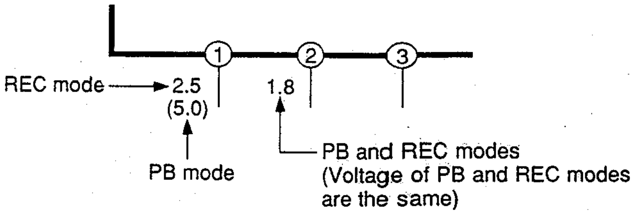
Direct connection on board

Non-removable Board connector

Connected pattern on board

### 4. Voltage measurement

1) Video circuits
   REC: Colour bar signal in SP mode, normal VHS mode.
   PB : Alignment tape, colour bar SP mode, normal VHS mode.
   — : Unmeasurable or unnecessary to measure.
2) Audio circuits
   REC: 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode.
   PB : REC then playback it.
3) Movie Camera circuits
   Measured using a correctly illuminated grey scale or colour bar test charts in the E-E mode.
4) Indication on schematic diagram
   Voltage Indications for REC and PB modes on the schematic diagram are as shown below.



**Note: If do not indicate for voltage measurement on the schematic diagram, refer to the voltage charts.**

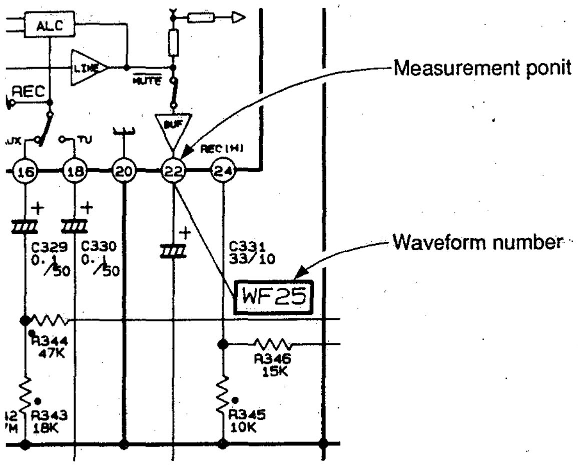
### 5. *Waveform measurement*

1) Video circuits
REC: Colour bar signal in SP mode, normal VHS mode.
PB : Alignment tape, colour bar SP mode, normal VHS mode.

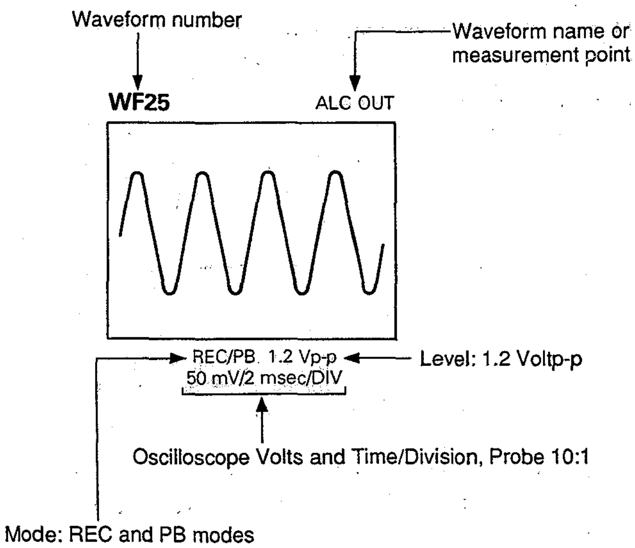
2) Audio circuits
REC: 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode.
PB : REC then playback it.

3) Movie Camera circuits
Measured using a correctly illuminated grey scale or colour bar test charts in the E-E mode.

4) *Indication on schematic diagram*
Waveform indications on the schematic diagram are as shown below.

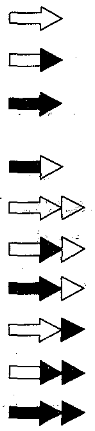

ALC
LINE
MUTE
REC
TU
BUF
REC(H)
16
18
20
22
24
C329 0.1/50
C330 0.1/50
C331 33/10
WF25
R344 47K
R346 15K
R343 18K
R345 10K
Measurement ponit
Waveform number

5) Waveform indications


Waveform number
Waveform name or measurement point
WF25
ALC OUT
REC/PB. 1.2 Vp-p
50 mV/2 msec/DIV
Level: 1.2 Voltp-p
Oscilloscope Volts and Time/Division, Probe 10:1
Mode: REC and PB modes

### 6. Signal path Symbols

The arrows indicate the signal path as follows.



Playback signal path
Playback and recording signal path
Recording signal path
(including E-E signal path)
Y signal path
Colour (Chroma) signal path
R or R-Y signal path
B or B-Y signal path
Capstan servo path
Drum servo path
Reel servo path

## CIRCUIT BOARD NOTES

### 1. Colour indications

1) Foil side :
Foil side patterns are indicated at GREY shading.
2) Component side :
Component side patterns are indicated at RED shading.

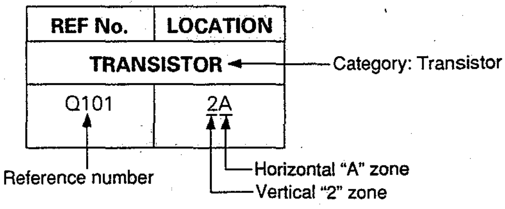
### 2. *Foil and Component sides*

1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
Parts on the component side seen from component face (parts face) are indicated.

### 3. Parts location guides

Parts location are indicated by guide scale on the circuit board.

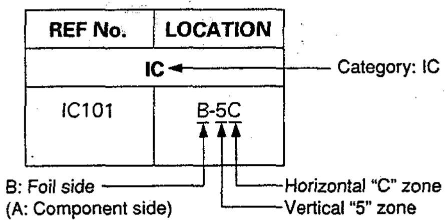
1) Signal pattern :



| REF No. | LOCATION |
|---|---|
| TRANSISTOR | |
| Q101 | 2A |

Category: Transistor
Reference number
Horizontal "A" zone
Vertical "2" zone

2) Double pattern :



| REF No. | LOCATION |
|---|---|
| IC | |
| IC101 | B-5C |

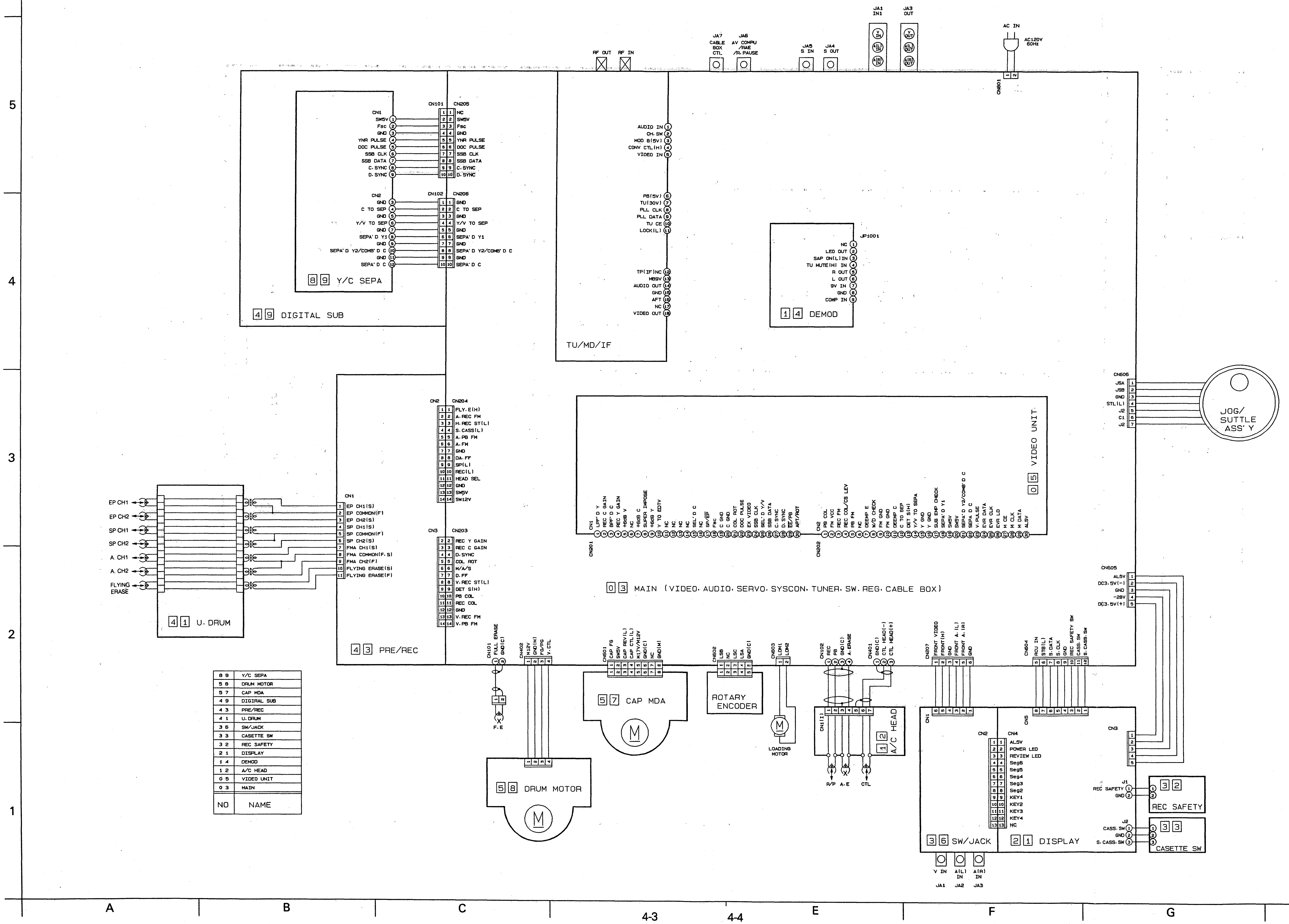
Category: IC
B: Foil side
(A: Component side)
Horizontal "C" zone
Vertical "5" zone

**Notes:**

**1) For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).**

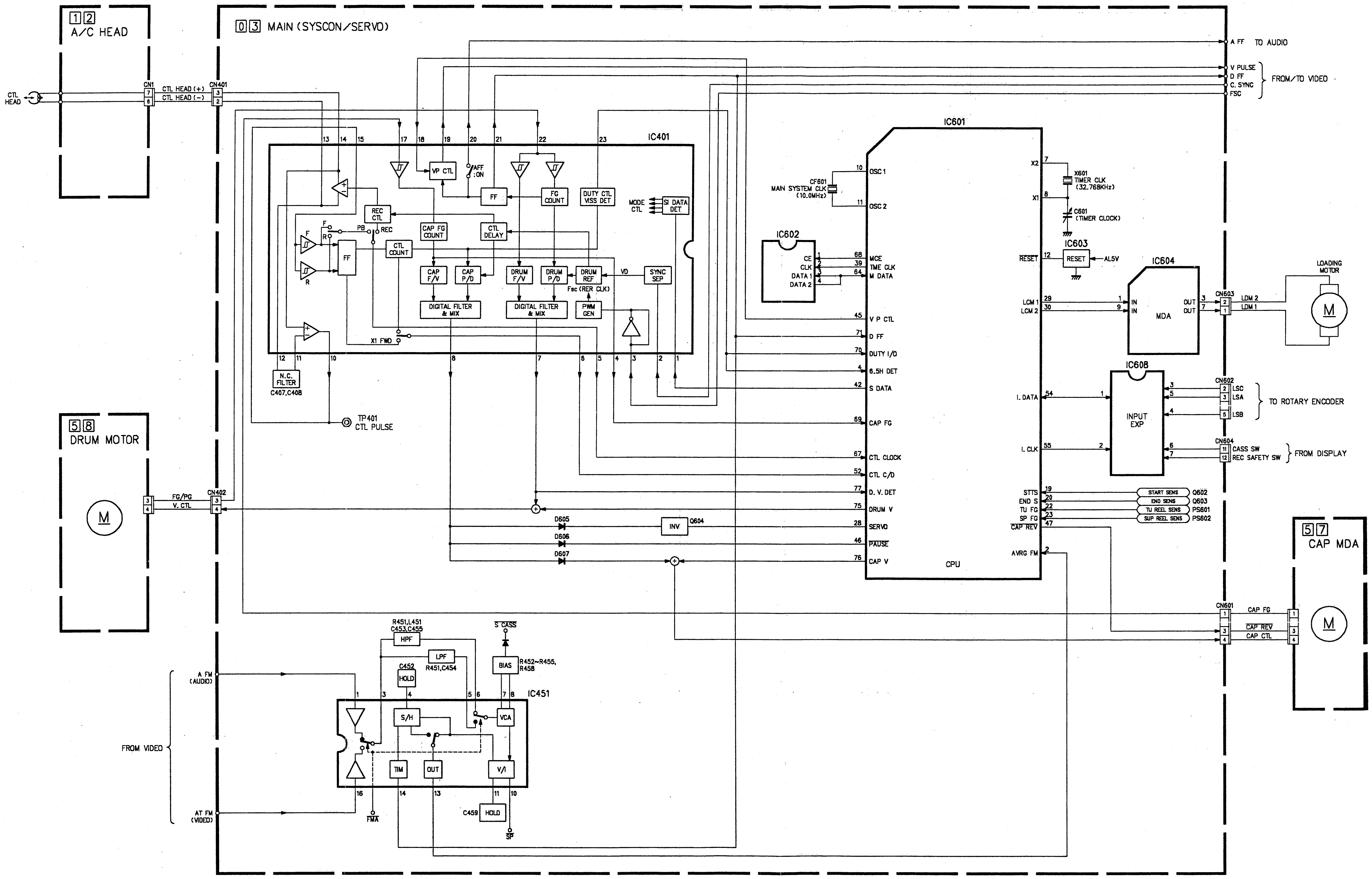
**2) For repairing SMC (Surface Mounted Components), please refer to the VIDEO SERVICE GUIDE No. VTS81001.**

## 4.1 BOARD INTERCONNECTIONS


RF OUT
RF IN
JA7 CABLE BOX CTL
JA6 AV COMPU /RAE /R. PAUSE
JA5 S IN
JA4 S OUT
JA1 IN1
JA3 OUT
V IN
A(L) IN
A(R) IN
V OUT
A(L) OUT
A(R) OUT
AC IN
AC120V 60Hz
CN801
CN1
SW5V ①
Fsc ②
GND ③
YNR PULSE ④
DOC PULSE ⑤
SSB CLK ⑥
SSB DATA ⑦
C. SYNC ⑧
D. SYNC ⑨
CN101
CN205
NC
SW5V
Fsc
GND
YNR PULSE
DOC PULSE
SSB CLK
SSB DATA
C. SYNC
D. SYNC
CN2
GND ③
C TO SEP ④
GND ⑤
Y/V TO SEP ⑥
GND ⑦
SEPA' D Y1 ⑧
GND ⑨
SEPA' D Y2/COMB' D C ⑩
GND ⑪
SEPA' D C ⑫
CN102
CN206
GND
C TO SEP
GND
Y/V TO SEP
GND
SEPA' D Y1
GND
SEPA' D Y2/COMB' D C
GND
SEPA' D C
8 9 Y/C SEPA
4 9 DIGITAL SUB
AUDIO IN ①
CH. SW ②
MOD B(5V) ③
CONV CTL(H) ④
VIDEO IN ⑤
PB(5V) ⑥
TU(30V) ⑦
PLL CLK ⑧
PLL DATA ⑨
TU CE ⑩
LOCK(L) ⑪
TP(IF)NC ⑫
MB9V ⑬
AUDIO OUT ⑭
GND ⑮
AFT ⑯
NC ⑰
VIDEO OUT ⑱
TU/MD/IF
JP1001
NC ①
LED OUT ②
SAP ON(L)IN ③
TU MUTE(H) IN ④
R OUT ⑤
L OUT ⑥
9V IN ⑦
GND ⑧
COMP IN ⑨
1 4 DEMOD
CN606
JSA
JSB
GND
STL(L)
J2
C1
J2
JOG/ SUTTLE ASS' Y
CN2
CN204
FLY. E(H)
A. REC FM
H. REC ST(L)
S. CASS(L)
A. PB FM
A. FM
GND
DA. FF
SP(L)
REC(L)
HEAD SEL
GND
SW5V
SW12V
CN3
CN203
REC Y GAIN
REC C GAIN
D. SYNC
COL ROT
M/A/S
D. FF
V. REC ST(L)
DET S(H)
PB COL
REC COL
GND
V. REC FM
V. PB FM
0 5 VIDEO UNIT
CN201
CN202
EP CH1
EP CH2
SP CH1
SP CH2
A. CH1
A. CH2
FLYING ERASE
4 1 U. DRUM
CN1
EP CH1(S)
EP COMMON(F)
EP CH2(S)
SP CH1(S)
SP COMMON(F)
SP CH2(S)
FMA CH1(S)
FMA COMMON(F. S)
FMA CH2(F)
FLYING ERASE(S)
FLYING ERASE(F)
4 3 PRE/REC
0 3 MAIN (VIDEO. AUDIO. SERVO. SYSCON. TUNER. SW. REG. CABLE BOX)
CN605
AL5V
DC3. 5V(−)
GND
−28V
DC3. 5V(+)
CN101
FULL ERASE
GND(C)
F. E
CN402
M12V
GND(H)
FG/PG
V. CTL
5 8 DRUM MOTOR
M
CN501
CAP FG
SW5V
CAP REV(L)
CAP CTL(L)
M17V/M12V
GND(C)
NC
GND(H)
5 7 CAP MDA
CN502
LSB
NC
LSC
LSA
GND(C)
ROTARY ENCODER
CN503
LDM1
LDM2
LOADING MOTOR
CN102
REC
PB
GND(C)
A. ERASE
CN401
GND(C)
CTL HEAD(−)
CTL HEAD(+)
CN1(I)
1 2 A/C HEAD
R/P
A. E
CTL
CN207
FRONT VIDEO
FRONT(H)
GND
FRONT A.(L)
FRONT A.(R)
GND
CN504
RCU IN
STB(L)
S. DATA
S. CLK
GND
REC SAFETY SW
CASS. SW
S. CASS. SW
CN1
CN2
CN4
AL5V
POWER LED
REVIEW LED
Seg6
Seg5
Seg4
Seg3
Seg2
KEY1
KEY2
KEY3
KEY4
NC
CN5
CN3
J1
REC SAFETY ①
GND ②
3 2 REC SAFETY
J2
CASS. SW ①
GND ②
S. CASS. SW ③
3 3 CASETTE SW
3 6 SW/JACK
2 1 DISPLAY
V IN
A(L) IN
A(R) IN
JA1
JA2
JA3
6
5
4
3
2
1
A
B
C
D
E
F
G
H

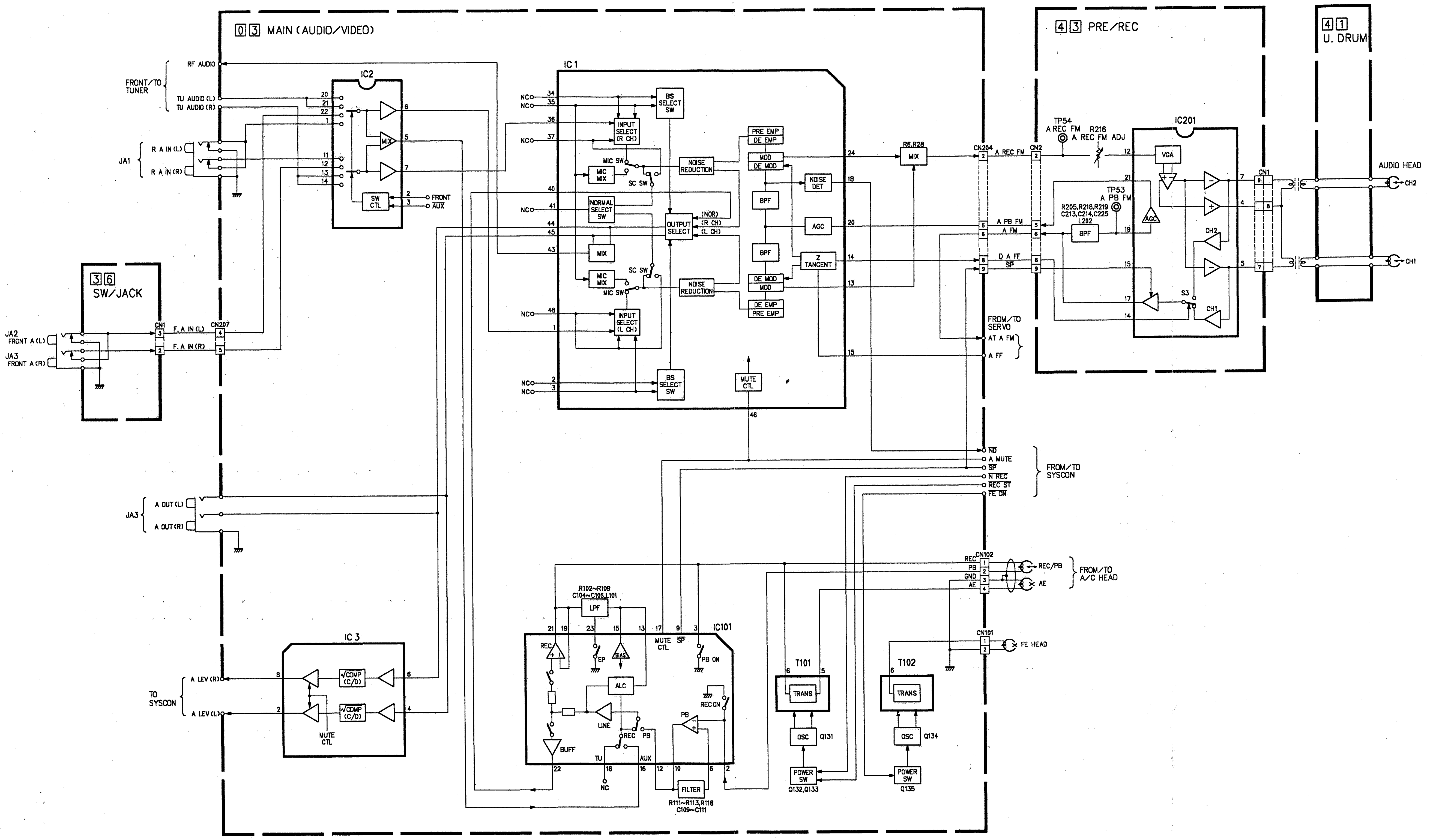
| NO | NAME |
|---|---|
| 8 9 | Y/C SEPA |
| 5 8 | DRUM MOTOR |
| 5 7 | CAP MDA |
| 4 9 | DIGIRAL SUB |
| 4 3 | PRE/REC |
| 4 1 | U. DRUM |
| 3 6 | SW/JACK |
| 3 3 | CASETTE SW |
| 3 2 | REC SAFETY |
| 2 1 | DISPLAY |
| 1 4 | DEMOD |
| 1 2 | A/C HEAD |
| 0 5 | VIDEO UNIT |
| 0 3 | MAIN |

## 4.2 SYSCON/SERVO BLOCK DIAGRAM



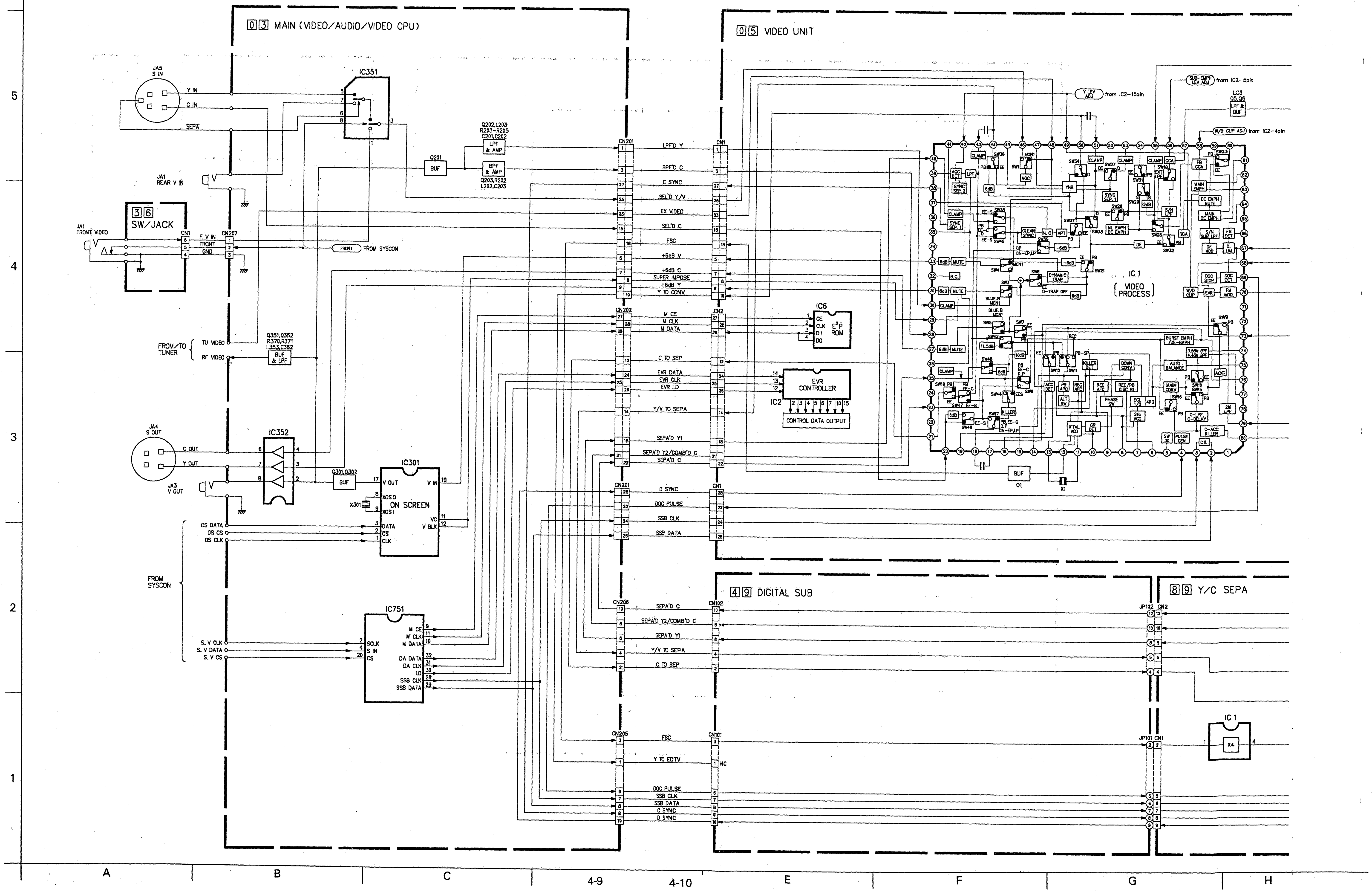
12 A/C HEAD
CTL HEAD
CN1
CTL HEAD (+)
CTL HEAD (−)
CN401
03 MAIN (SYSCON/SERVO)
IC401
VP CTL
AFF :ON
FF
FG COUNT
DUTY CTL VISS DET
MODE CTL
SI DATA DET
REC CTL
PB
REC
CAP FG COUNT
CTL DELAY
CTL COUNT
CAP F/V
CAP P/D
DRUM F/V
DRUM P/D
DRUM REF
Fsc (RER CLK)
VD
SYNC SEP
DIGITAL FILTER & MIX
PWM GEN
X1 FWD
N.C. FILTER
C407,C408
TP401 CTL PULSE
58 DRUM MOTOR
M
FG/PG
V. CTL
CN402
D605
D606
D607
INV
Q604
A FF TO AUDIO
V PULSE
D FF
C. SYNC
FSC
FROM/TO VIDEO
IC601
OSC 1
OSC 2
CF601 MAIN SYSTEM CLK (10.0MHz)
X2
X1
X601 TIMER CLK (32.768KHz)
C601 (TIMER CLOCK)
IC602
CE
CLK
DATA 1
DATA 2
MCE
TME CLK
M DATA
RESET
IC603
RESET
AL5V
V P CTL
D FF
DUTY I/O
6.5H DET
S DATA
CAP FG
CTL CLOCK
CTL C/D
D. V. DET
DRUM V
SERVO
PAUSE
CAP V
CPU
LCM 1
LCM 2
I. DATA
I. CLK
STTS
END S
TU FG
SP FG
CAP REV
AVRG FM
START SENS Q602
END SENS Q603
TU REEL SENS PS601
SUP REEL SENS PS602
IC604
MDA
IN
OUT
CN603
LDM 2
LDM 1
LOADING MOTOR
IC608
INPUT EXP
CN602
LSC
LSA
LSB
TO ROTARY ENCODER
CN604
CASS SW
REC SAFETY SW
FROM DISPLAY
57 CAP MDA
CN601
CAP FG
CAP REV
CAP CTL
R451,L451 C453,C455
HPF
LPF
R451,C454
C452
HOLD
S CASS
BIAS
R452~R455, R458
IC451
S/H
VCA
TIM
OUT
V/I
C459
HOLD
FMA
SP
A FM (AUDIO)
AT FM (VIDEO)
FROM VIDEO
5
4
3
2
1
A
B
C
E
F
G
H

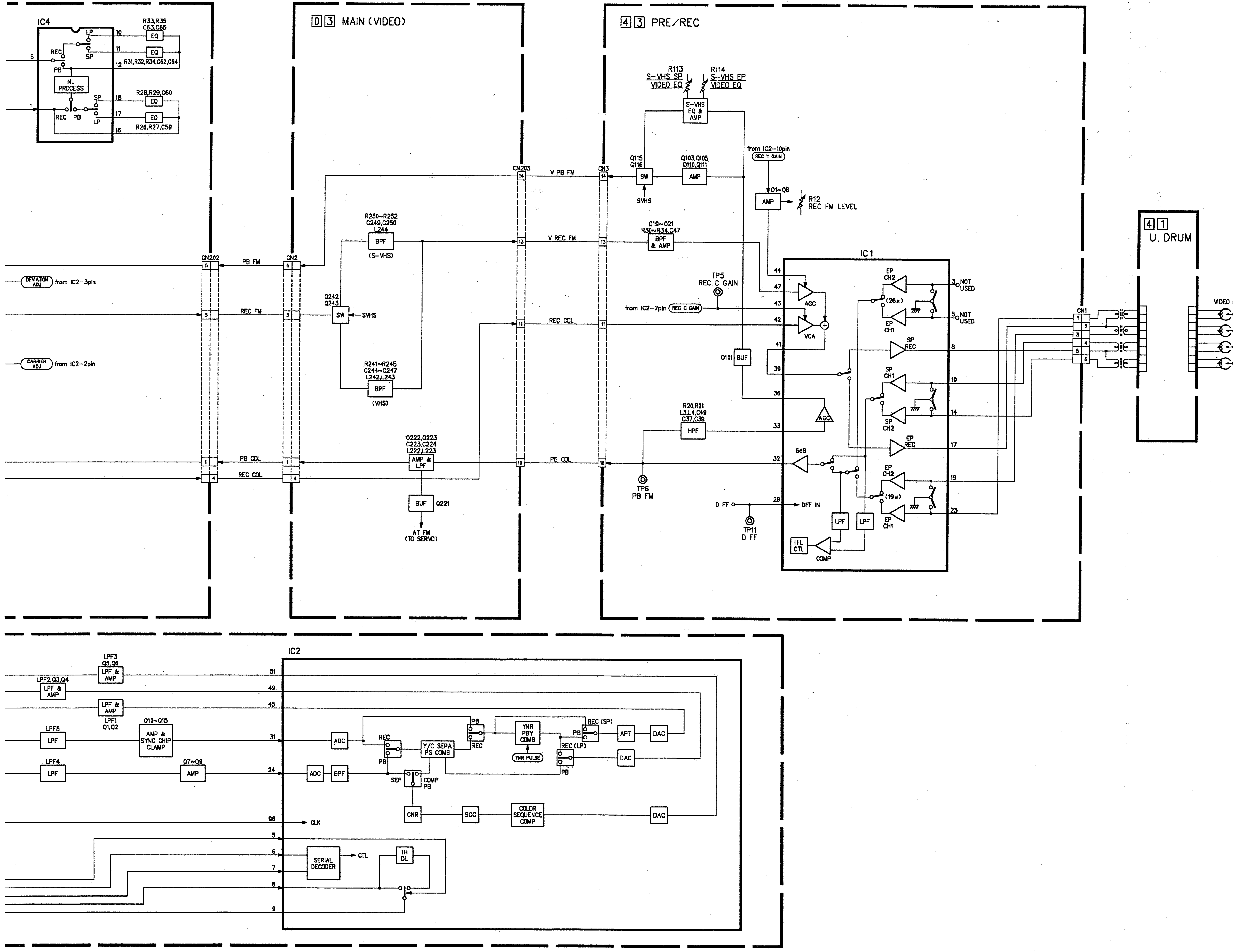
## 4.3 AUDIO BLOCK DIAGRAM



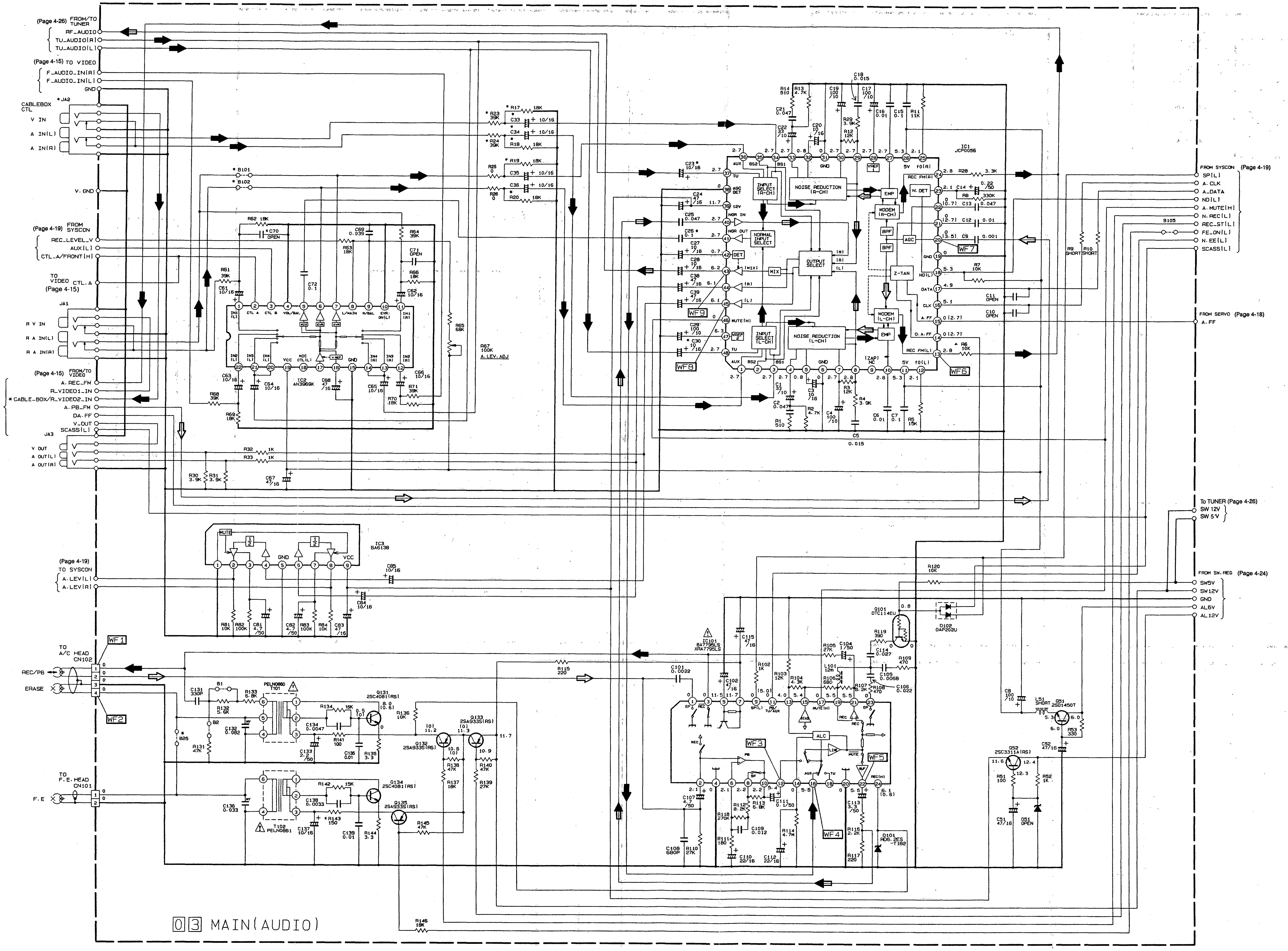
03 MAIN (AUDIO/VIDEO)
43 PRE/REC
41 U. DRUM
36 SW/JACK
RF AUDIO
FRONT/TO TUNER
TU AUDIO (L)
TU AUDIO (R)
JA1
R A IN (L)
R A IN (R)
IC2
MIX
SW CTL
FRONT
AUX
JA2 FRONT A (L)
JA3 FRONT A (R)
CN1
F. A IN (L)
F. A IN (R)
CN207
IC1
NC
BS SELECT SW
INPUT SELECT (R CH)
INPUT SELECT (L CH)
MIC SW
MIC MIX
SC SW
NOISE REDUCTION
NORMAL SELECT SW
OUTPUT SELECT
(NOR)
(R CH)
(L CH)
MIX
PRE EMP
DE EMP
MOD
DE MOD
NOISE DET
BPF
AGC
Z TANGENT
MUTE CTL
R6,R28
MIX
CN204
A REC FM
CN2
A PB FM
A FM
D A FF
SP
FROM/TO SERVO
AT A FM
A FF
TP54 A REC FM
R216 A REC FM ADJ
TP53 A PB FM
R205,R218,R219 C213,C214,C225
L202
BPF
IC201
VGA
AGC
CH2
CH1
S3
AUDIO HEAD
CH2
CH1
ND
A MUTE
SP
N REC
REC ST
FE ON
FROM/TO SYSCON
JA3
A OUT (L)
A OUT (R)
REC
PB
GND
AE
CN102
REC/PB
AE
FROM/TO A/C HEAD
CN101
FE HEAD
R102~R109 C104~C106,L101
LPF
IC101
REC
EP
BIAS
MUTE CTL
SP
PB ON
ALC
REC ON
LINE
PB
REC
BUFF
TU
AUX
NC
FILTER
R111~R113,R118 C109~C111
T101
TRANS
OSC
Q131
POWER SW
Q132,Q133
T102
TRANS
OSC
Q134
POWER SW
Q135
IC 3
√COMP (C/D)
MUTE CTL
A LEV (R)
A LEV (L)
TO SYSCON

## 4.4 VIDEO BLOCK DIAGRAM


0 3 MAIN (VIDEO/AUDIO/VIDEO CPU)
0 5 VIDEO UNIT
3 6 SW/JACK
4 9 DIGITAL SUB
8 9 Y/C SEPA
JA5 S IN
Y IN
C IN
SEPA
IC351
JA1 REAR V IN
JA1 FRONT VIDEO
F V IN
FRONT
GND
CN207
FRONT FROM SYSCON
Q201
BUF
Q202,L203 R203~R205 C201,C202
LPF & AMP
BPF & AMP
Q203,R202 L202,C203
FROM/TO TUNER
TU VIDEO
RF VIDEO
Q351,Q352 R370,R371 L353,C362
BUF & LPF
JA4 S OUT
C OUT
Y OUT
JA3 V OUT
IC352
Q301,Q302
BUF
IC301
ON SCREEN
V OUT
V IN
XOS O
XOS I
X301
DATA
CS
CLK
VC
V BLK
OS DATA
OS CS
OS CLK
FROM SYSCON
IC751
S. V CLK
S. V DATA
S. V CS
SCLK
S IN
CS
M CE
M CLK
M DATA
DA DATA
DA CLK
LD
SSB CLK
SSB DATA
CN201
CN1
LPF'D Y
BPF'D C
C SYNC
SEL'D Y/V
EX VIDEO
SEL'D C
FSC
+6dB V
+6dB C
SUPER IMPOSE
+6dB Y
Y TO CONV
CN202
CN2
M CE
M CLK
M DATA
C TO SEP
EVR DATA
EVR CLK
EVR LD
Y/V TO SEPA
SEPA'D Y1
SEPA'D Y2/COMB'D C
SEPA'D C
D SYNC
DOC PULSE
SSB CLK
SSB DATA
IC6
E²P ROM
CE
CLK
DI
DO
IC2
EVR CONTROLLER
CONTROL DATA OUTPUT
IC 1
(VIDEO PROCESS)
Y LEV ADJ from IC2-15pin
SUB-EMPH LEV ADJ from IC2-5pin
W/D CLIP ADJ from IC2-4pin
LC3 Q5,Q6 LPF & BUF
BUF Q1
X1
CN206
CN102
SEPA'D C
SEPA'D Y2/COMB'D C
SEPA'D Y1
Y/V TO SEPA
C TO SEP
JP102
CN205
CN101
FSC
Y TO EDTV
NC
JP101
IC 1
X4
DOC PULSE
SSB CLK
SSB DATA
C SYNC
D SYNC
6
5
4
3
2
1
A
B
C
E
F
G
H


IC4
R33,R35
C63,C65
LP
10
11
12
REC
SP
PB
6
EQ
EQ
R31,R32,R34,C62,C64
NL PROCESS
R28,R29,C60
SP
18
17
16
1
REC
PB
LP
EQ
EQ
R26,R27,C59
DEVIATION ADJ
from IC2-3pin
CARRIER ADJ
from IC2-2pin
CN202
5
3
1
4
PB FM
REC FM
PB COL
REC COL
CN2
5
3
1
4
0 3 MAIN (VIDEO)
R250~R252
C249,C250
L244
BPF
(S-VHS)
Q242
Q243
SW
SVHS
R241~R245
C244~C247
L242,L243
BPF
(VHS)
Q222,Q223
C223,C224
L222,L223
AMP & LPF
BUF
Q221
AT FM
(TO SERVO)
CN203
14
13
11
10
V PB FM
V REC FM
REC COL
PB COL
CN3
14
13
11
10
4 3 PRE/REC
R113
S-VHS SP
VIDEO EQ
R114
S-VHS EP
VIDEO EQ
S-VHS EQ & AMP
Q115
Q116
SW
SVHS
Q103,Q105
Q110,Q111
AMP
from IC2-10pin
REC Y GAIN
Q1~Q6
AMP
R12
REC FM LEVEL
Q19~Q21
R30~R34,C47
BPF & AMP
TP5
REC C GAIN
from IC2-7pin
REC C GAIN
Q101
BUF
R20,R21
L3,L4,C49
C37,C39
HPF
TP6
PB FM
D FF
TP11
D FF
IC 1
44
47
43
42
41
39
36
33
32
29
AGC
VCA
AGC
6dB
DFF IN
LPF
LPF
IIL CTL
COMP
EP CH2
(26μ)
EP CH1
3 NOT USED
5 NOT USED
SP REC
8
SP CH1
10
SP CH2
14
EP REC
17
EP CH2
19
(19μ)
EP CH1
23
CN1
1
2
3
4
5
6
4 1
U. DRUM
VIDEO HEAD
EP CH-1
EP CH-2
SP CH-1
SP CH-2
IC2
LPF3
Q5,Q6
LPF & AMP
LPF2,Q3,Q4
LPF & AMP
LPF & AMP
LPF1
Q1,Q2
Q10~Q15
AMP & SYNC CHIP CLAMP
LPF5
LPF
LPF4
LPF
Q7~Q9
AMP
51
49
45
31
24
96
5
6
7
8
9
CLK
ADC
REC
PB
Y/C SEPA
PS COMB
PB
REC
YNR PBY COMB
YNR PULSE
REC (SP)
PB
REC (LP)
PB
APT
DAC
DAC
ADC
BPF
SEP
COMP
PB
CNR
SCC
COLOR SEQUENCE COMP
DAC
SERIAL DECODER
CTL
1H DL

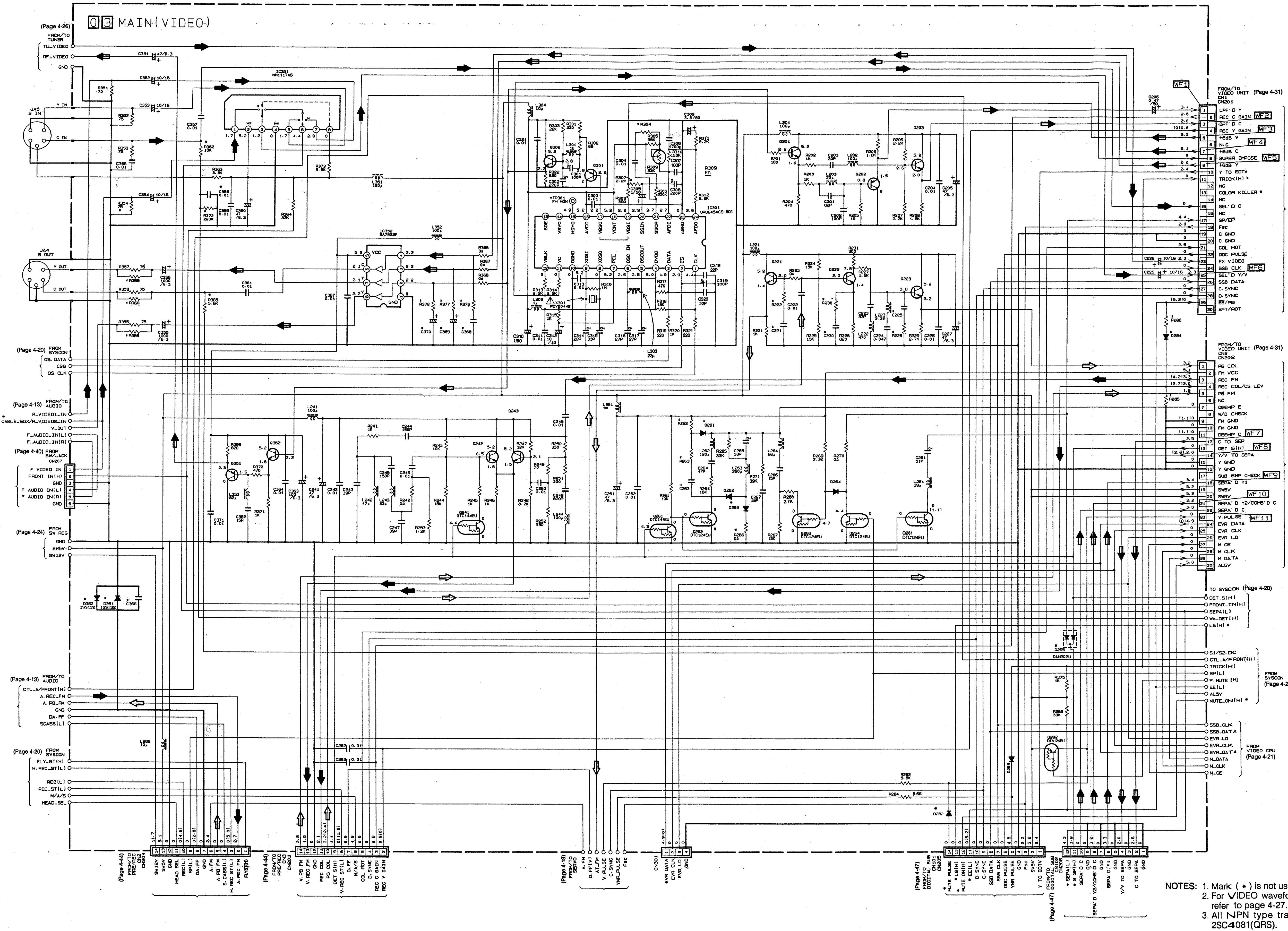
## 4.5 AUDIO SCHEMATIC DIAGRAM



(Page 4-26) FROM/TO TUNER
RF_AUDIO
TU_AUDIO(R)
TU_AUDIO(L)
(Page 4-15) TO VIDEO
F_AUDIO_IN(R)
F_AUDIO_IN(L)
GND
*JA2
CABLEBOX CTL
V IN
A IN(L)
A IN(R)
V.GND
(Page 4-19) FROM SYSCON
REC_LEVEL_V
AUX(L)
CTL_A/FRONT(H)
TO VIDEO CTL.A (Page 4-15)
JA1
R V IN
R A IN(L)
R A IN(R)
(Page 4-15) FROM/TO VIDEO
A.REC_FM
R_VIDEO1_IN
*CABLE_BOX/R_VIDEO2_IN
A.PB_FM
DA.FF
V_OUT
SCASS(L)
JA3
V OUT
A OUT(L)
A OUT(R)
IC2 AN3969K
R67 100K A.LEV.ADJ
IC3 BA6138
MUTE
(Page 4-19) TO SYSCON
A.LEV(L)
A.LEV(R)
IC1 JCP0056
NOISE REDUCTION (R-CH)
NOISE REDUCTION (L-CH)
INPUT SELECT (R-CH)
INPUT SELECT (L-CH)
NORMAL INPUT SELECT
OUTPUT SELECT
MIX
EMP
N.DET
MODEM (R-CH)
MODEM (L-CH)
BPF
AGC
Z-TAN
WF1
WF2
WF3
WF4
WF5
WF6
WF7
WF8
WF9
FROM SYSCON (Page 4-19)
SP(L)
A.CLK
A.DATA
ND(L)
A.MUTE(H)
N.REC(L)
REC_ST(L)
FE_ON(L)
N.EE(L)
SCASS(L)
FROM SERVO (Page 4-18)
A.FF
To TUNER (Page 4-26)
SW 12V
SW 5V
FROM SW.REG (Page 4-24)
SW5V
SW12V
GND
AL6V
AL12V
TO A/C HEAD CN102
REC/PB
ERASE
TO F.E.HEAD CN101
F.E
T101 PELN0860
T102 PELN0861
Q131 2SC4081(RS)
Q132 2SA933S(RS)
Q133 2SA933S(RS)
Q134 2SC4081(RS)
Q135 2SA933S(RS)
IC101 BA7795LS XRA7795LS
ALC
Q101 DTC114EU
D102 DAP202U
D101 RD6.2ES -T1B2
Q51 2SD1450T
Q52 2SC3311A(RS)
L51 SHORT
03 MAIN(AUDIO)

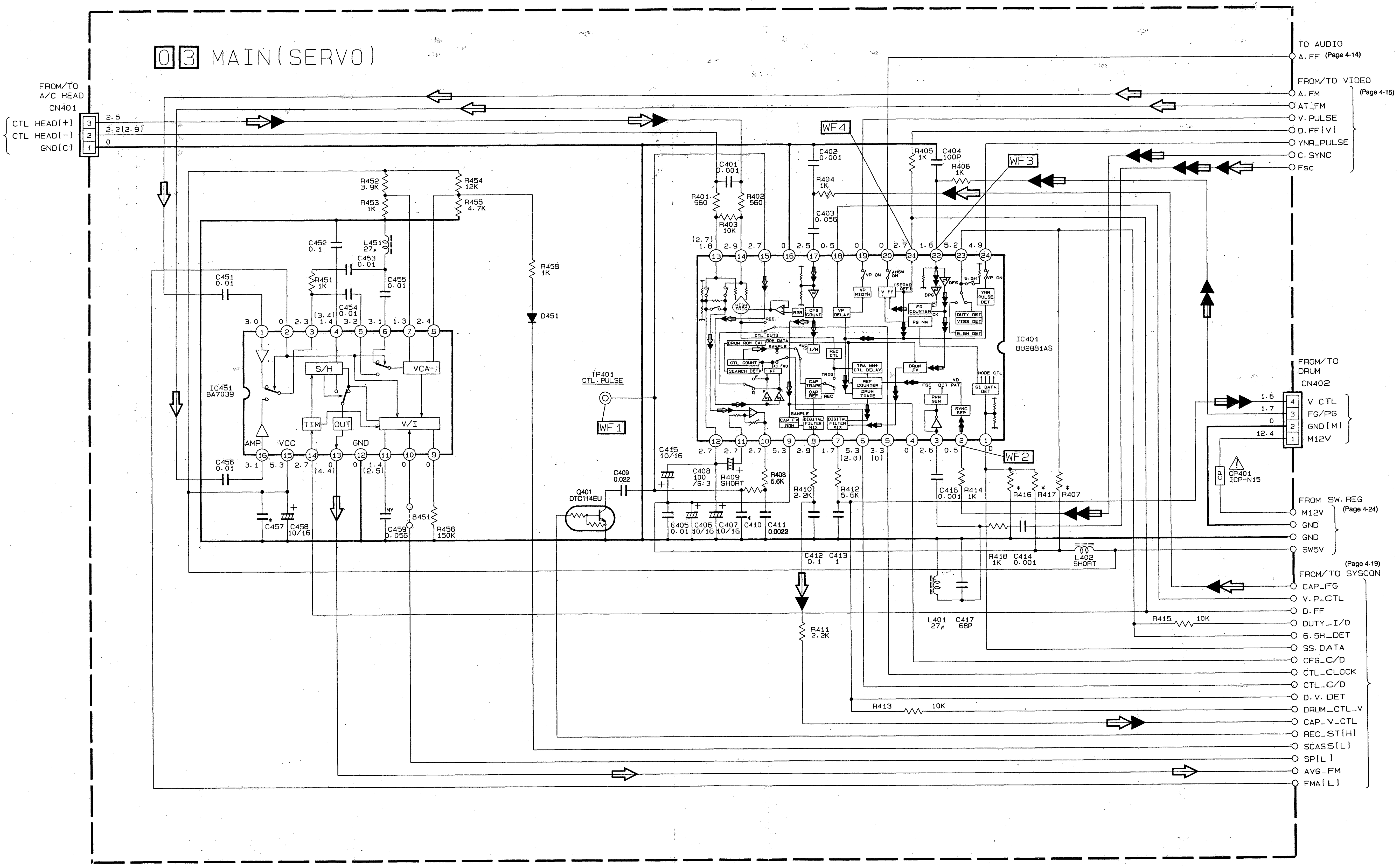
NOTES: 1. Mark ( ∗ ) is not used.
2. For AUDIO waveforms, please refer to page 4-27.

## 4.6 VIDEO SCHEMATIC DIAGRAM


03 MAIN (VIDEO)
(Page 4-26) FROM/TO TUNER
TU_VIDEO
RF_VIDEO
GND
JA5 S IN
Y IN
C IN
JA4 S OUT
Y OUT
C OUT
IC351 MM1117XS
IC352 BA7623F
IC301 UPD6454CS-501
(Page 4-20) FROM SYSCON
OS_DATA
CSB
OS_CLK
(Page 4-13) FROM/TO AUDIO
R_VIDEO1_IN
CABLE_BOX/R_VIDEO2_IN
V_OUT
F_AUDIO_IN(L)
F_AUDIO_IN(R)
(Page 4-40) FROM SW/JACK CN207
F VIDEO IN
FRONT IN(H)
GND
F AUDIO IN(L)
F AUDIO IN(R)
GND
(Page 4-24) FROM SW REG
GND
SW5V
SW12V
D352 1SS132
D351 1SS132
(Page 4-13) FROM/TO AUDIO
CTL_A/FRONT(H)
A.REC_FM
A.PB_FM
GND
DA.FF
SCASS(L)
(Page 4-20) FROM SYSCON
FLY_ST(H)
H.REC_ST(L)
REC(L)
REC_ST(L)
N/A/S
HEAD_SEL
Q241 DTC144EU
Q261 DTC124EU
Q262 DTC124EU
Q263 DTC124EU
Q264 DTC124EU
Q281 DTC124EU
FROM/TO VIDEO UNIT (Page 4-31) CN1 CN201
LPF'D Y
REC C GAIN
BPF'D C
REC Y GAIN
+6dB Y
N.C
+6dB C
SUPER IMPOSE
+6dB Y
Y TO EDTV
TRICK(H)
NC
COLOR KILLER
NC
SEL'D C
NC
SP/EP
Fsc
C GND
C GND
COL ROT
DOC PULSE
EX VIDEO
SSB CLK
SEL'D Y/V
SSB DATA
C.SYNC
D.SYNC
EE/PB
APT/ROT
FROM/TO VIDEO UNIT (Page 4-31) CN2 CN202
PB COL
FM VCC
REC FM
REC COL/CS LEV
PB FM
NC
DEEMP E
W/D CHECK
FM GND
FM GND
DEEMP C
C TO SEP
DET S(H)
Y/V TO SEPA
Y GND
Y GND
SUB EMP CHECK
SEPA' D Y1
SW5V
SW5V
SEPA' D Y2/COMB' D C
SEPA' D C
V.PULSE
EVR DATA
EVR CLK
EVR LD
M CE
M CLK
M DATA
AL5V
WF1
WF2
WF3
WF4
WF5
WF6
WF7
WF8
WF9
WF10
WF11
TO SYSCON (Page 4-20)
DET_S(H)
FRONT_IN(H)
SEPA(L)
WA_DET(H)
LB(H)
S1/S2.DC
CTL_A/FRONT(H)
TRICK(H)
SP(L)
P.MUTE (M)
EE(L)
AL5V
MUTE_ON(H)
FROM SYSCON (Page 4-20)
D265 DAN202U
SSB_CLK
SSB_DATA
EVR_LD
EVR_CLK
EVR_DATA
M_DATA
M_CLK
M_CE
FROM VIDEO CPU (Page 4-21)
(Page 4-44) FROM/TO PRE/REC CN2 CN204
SW12V
SW5V
GND
HEAD SEL
REC(L)
SP(L)
DA.FF
GND
A.FM
A.FM
S.CASS(L)
H.REC ST(L)
A.REC FM
FLY ST(H)
(Page 4-44) FROM/TO PRE/REC CN3 CN203
V.PB FM
V.REC FM
GND
REC COL
DET S(H)
V.REC ST(L)
D.FF
N/A/S
COL ROT
D.SYNC
REC C GAIN
REC Y GAIN
(Page 4-18) FROM/TO SERVO
A.FM
D.FF(V)
AT.FM
V.PULSE
C.SYNC
YNR_PULSE
Fsc
CN301
EVR DATA
EVR CLK
EVR LD
GND
(Page 4-47) FROM/TO DIGITAL SUB CN101 CN205
MUTE PULSE
LB(H)
MUTE ON(H)
EE(L)
D.SYNC
C.SYNC
SSB DATA
SSB CLK
DOC PULSE
YNR PULSE
GND
Fsc
SW5V
Y TO EDTV
(Page 4-47) FROM/TO DIGITAL SUB CN102 CN206
SEPA(L)
SEPH(L)
SEPA'D Y2/COMB'D C
GND
SEPA'D Y1
GND
Y/V TO SEPA
GND
C TO SEPA
GND

NOTES:
1. Mark ( * ) is not used.
2. For VIDEO waveforms, please refer to page 4-27.
3. All NPN type tranisitors are 2SC4081(QRS).
All PNP type tranisitors are 2SA1576(RS).

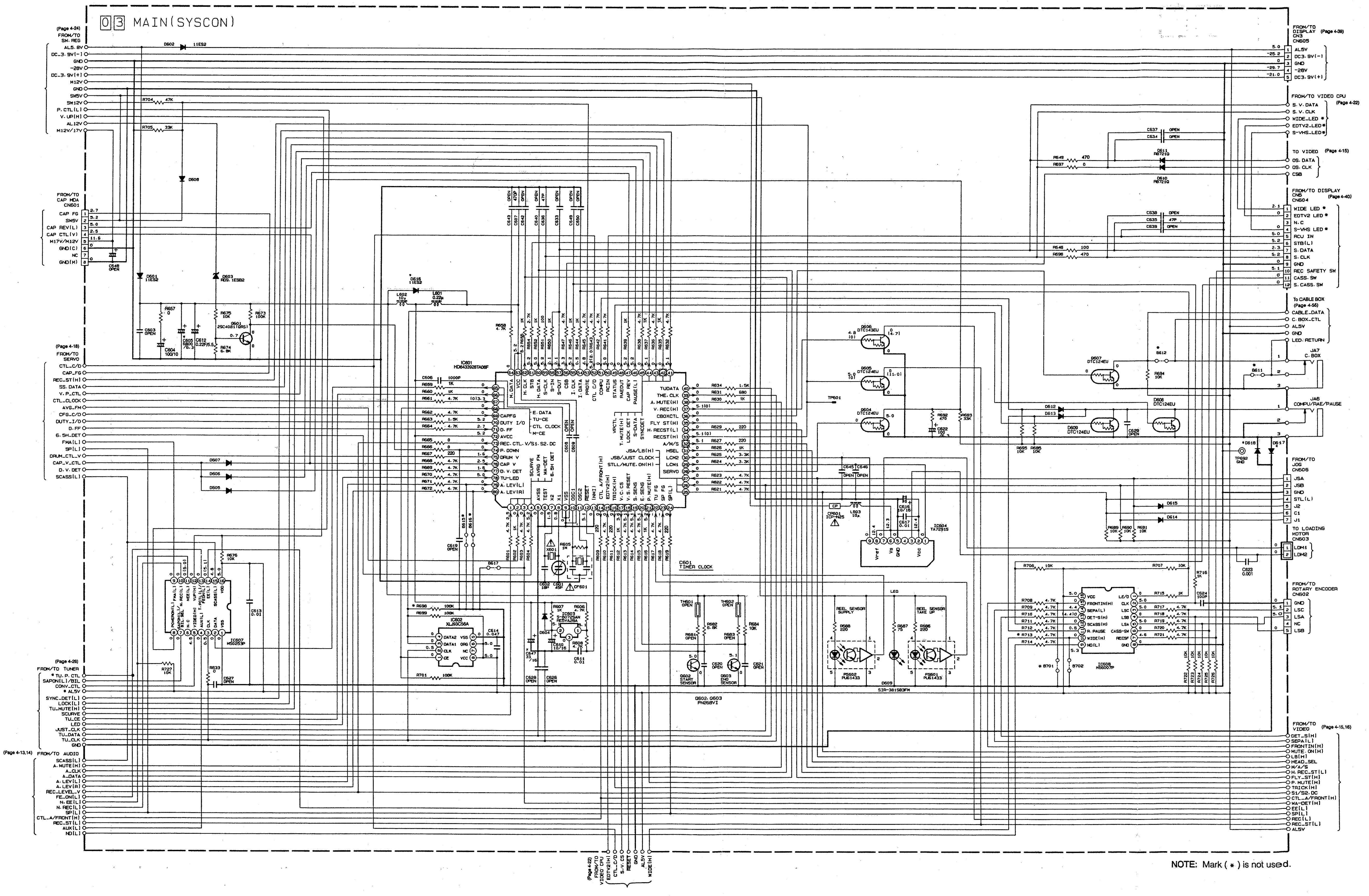
## 4.7 SERVO SCHEMATIC DIAGRAM



03 MAIN(SERVO)
FROM/TO A/C HEAD
CN401
CTL HEAD(+)
CTL HEAD(-)
GND(C)
2.5
2.2(2.9)
0
IC451 BA7039
S/H
VCA
TIM
OUT
V/I
AMP
VCC
GND
R452 3.9K
R453 1K
R454 12K
R455 4.7K
R451 1K
R458 1K
D451
L451 27μ
C451 0.01
C452 0.1
C453 0.01
C454 0.01
C455 0.01
C456 0.01
C457
C458 10/16
C459 0.056
B451
R456 150K
TP401 CTL.PULSE
WF1
WF2
WF3
WF4
Q401 DTC114EU
C409 0.022
C415 10/16
C408 100 /6.3
R409 SHORT
R408 5.6K
C405 0.01
C406 10/16
C407 10/16
C410
C411 0.0022
C401 0.001
R401 560
R402 560
R403 10K
C402 0.001
R404 1K
C403 0.056
R405 1K
C404 100P
R406 1K
IC401 BU2881AS
R410 2.2K
R412 5.6K
R411 2.2K
C412 0.1
C413 1
C416 0.001
R414 1K
R416
R417
R407
R418 1K
C414 0.001
L402 SHORT
L401 27μ
C417 68P
R413 10K
R415 10K
CP401 ICP-N15
TO AUDIO
A.FF (Page 4-14)
FROM/TO VIDEO (Page 4-15)
A.FM
AT_FM
V.PULSE
D.FF(V)
YNR_PULSE
C.SYNC
Fsc
FROM/TO DRUM
CN402
V CTL
FG/PG
GND(M)
M12V
1.6
1.7
0
12.4
FROM SW.REG (Page 4-24)
M12V
GND
GND
SW5V
FROM/TO SYSCON (Page 4-19)
CAP_FG
V.P_CTL
D.FF
DUTY_I/O
6.5H_DET
SS.DATA
CFG_C/D
CTL_CLOCK
CTL_C/D
D.V.DET
DRUM_CTL_V
CAP_V_CTL
REC_ST(H)
SCASS(L)
SP(L)
AVG_FM
FMA(L)

NOTES: 1. Mark ( * ) is not used.
2. For SERVO waveforms, please refer to page 4-27.

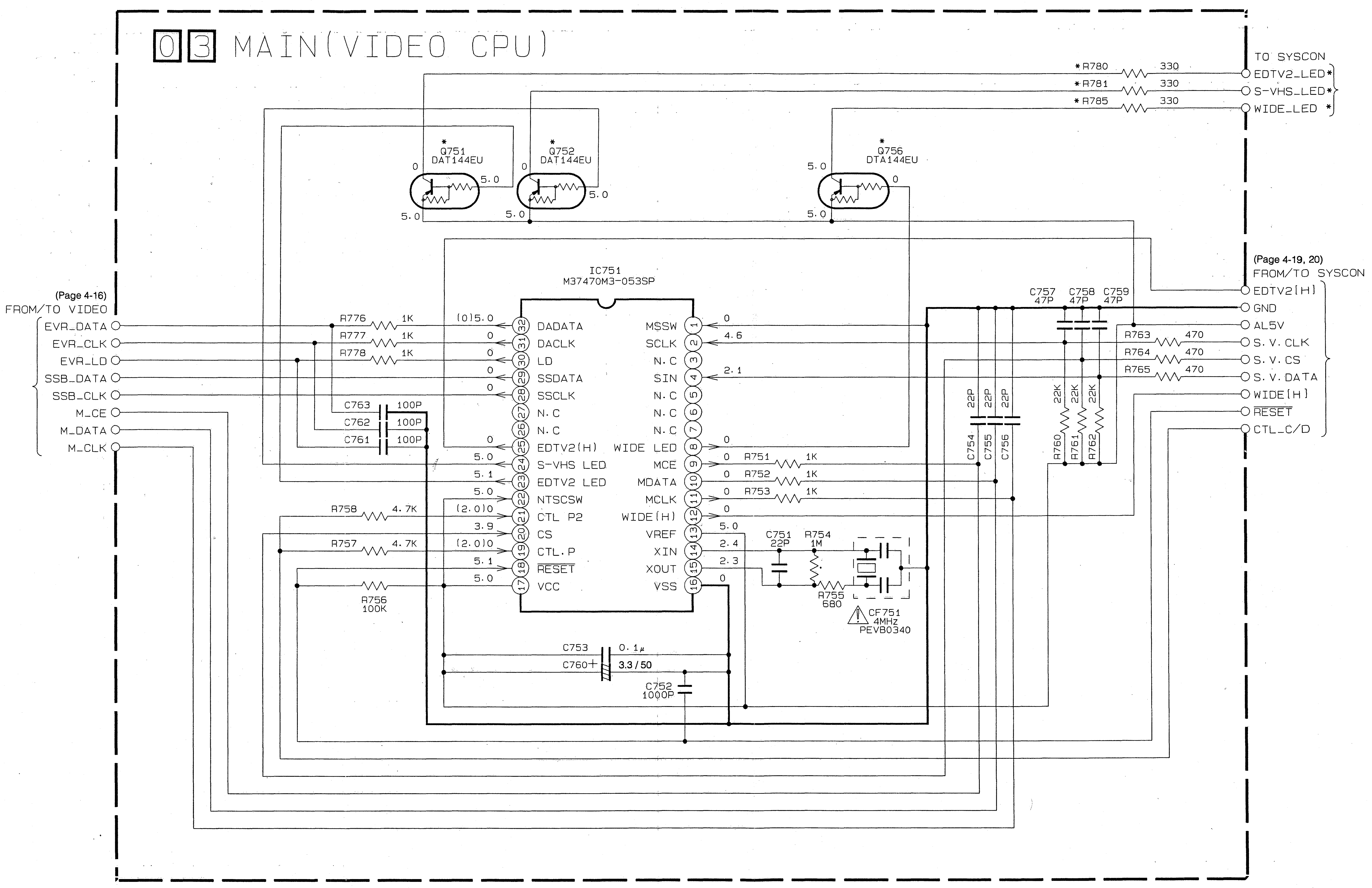
## 4.8 SYSTEM CONTROL SCHEMATIC DIAGRAM



03 MAIN(SYSCON)
(Page 4-24) FROM/TO SW. REG
AL5.8V
DC_3.9V(-)
GND
-28V
DC_3.9V(+)
M12V
SW5V
SW12V
P.CTL(L)
V.UP(H)
AL12V
M12V/17V
FROM/TO CAP MDA CN501
CAP FG
CAP REV(L)
CAP CTL(V)
(Page 4-18) FROM/TO SERVO
CTL_C/D
CAP_FG
REC_ST(H)
SS.DATA
V.P.CTL
CTL_CLOCK
AVG_FM
CFG_C/D
DUTY_I/O
D.FF
6.5H_DET
FMA(L)
SP(L)
DRUM_CTL_V
CAP_V_CTL
D.V.DET
SCASS(L)
(Page 4-26) FROM/TO TUNER
(Page 4-13,14) FROM/TO AUDIO
IC601 HD6433928TA08F
IC602 XL93C56A
IC603 S-80725AN
IC604 TA7291S
IC607 M50253P
IC608 M56007P
X601 TIMER CLOCK
CF601
Q601 2SC4081(QRS)
Q602 START SENSOR
Q603 END SENSOR
Q602, Q603 PN268VI
Q604 DTC124EU
Q605 DTC124EU
Q606 DTC143EU
Q607 DTC124EU
Q608 DTC124EU
Q609 DTC124EU
D609 SIR-381S83FM
REEL SENSOR SUPPLY
REEL SENSOR TAKE UP
PS601 PL61433
PS602 PL61433
TH601 OPEN
TH602 OPEN
FROM/TO DISPLAY CN3 CN605 (Page 4-39)
FROM/TO VIDEO CPU (Page 4-22)
TO VIDEO (Page 4-15)
FROM/TO DISPLAY CN8 CN604 (Page 4-40)
To CABLE BOX (Page 4-56)
JA7 C.BOX
JA6 COMPU/RAE/PAUSE
FROM/TO JOG CN606
TO LOADING MOTOR CN603
FROM/TO ROTARY ENCODER CN602
FROM/TO VIDEO (Page 4-15,16)
(Page 4-22) FROM/TO VIDEO CPU

NOTE: Mark ( * ) is not used.

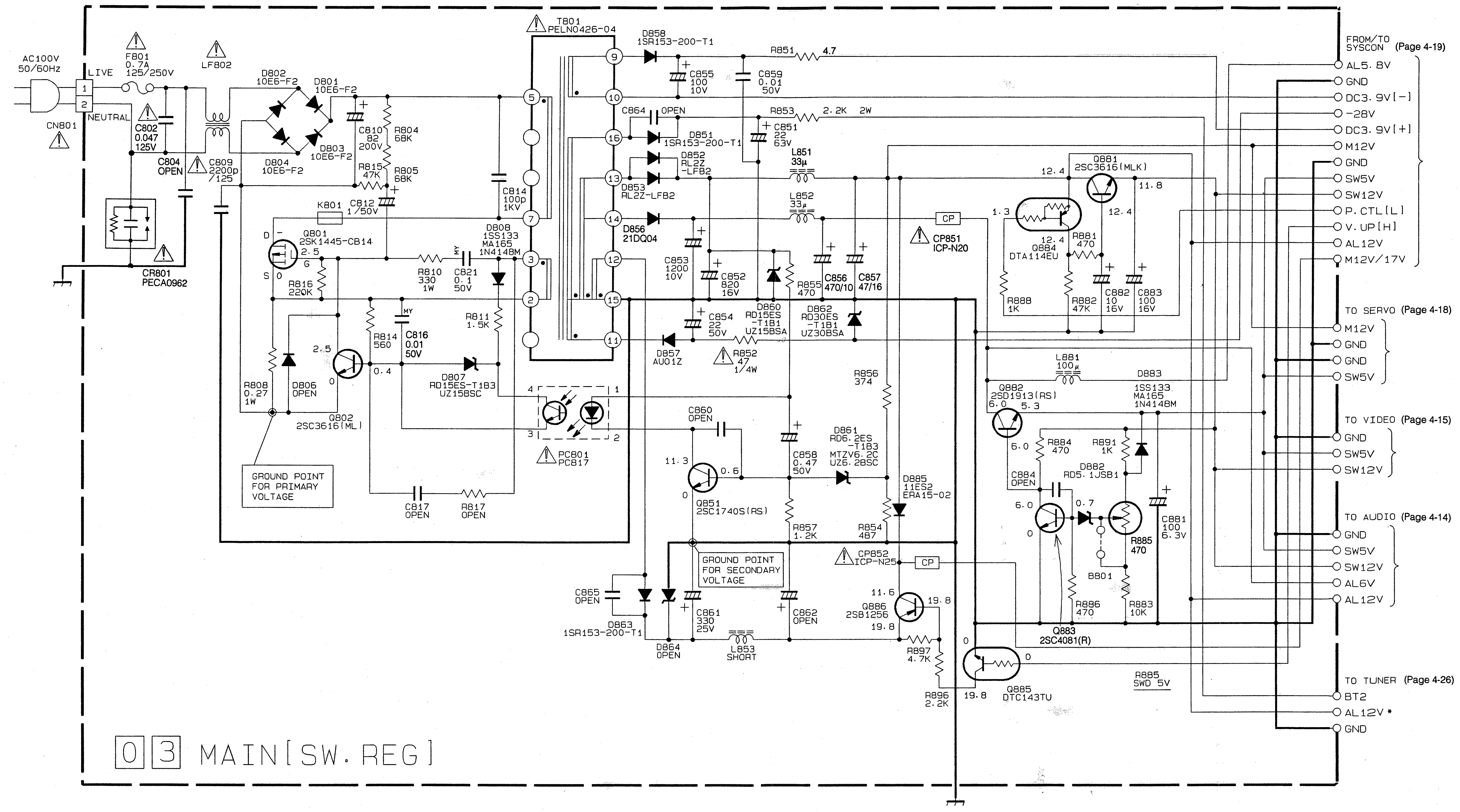
## 4.9 VIDEO CPU SCHEMATIC DIAGRAM



03 MAIN(VIDEO CPU)
TO SYSCON
EDTV2_LED*
S-VHS_LED*
WIDE_LED *
*R780 330
*R781 330
*R785 330
*Q751 DAT144EU
*Q752 DAT144EU
*Q756 DTA144EU
0
5.0
IC751
M37470M3-053SP
(Page 4-16)
FROM/TO VIDEO
EVR_DATA
EVR_CLK
EVR_LD
SSB_DATA
SSB_CLK
M_CE
M_DATA
M_CLK
R776 1K
R777 1K
R778 1K
C763 100P
C762 100P
C761 100P
(0)5.0
32 DADATA
31 DACLK
30 LD
29 SSDATA
28 SSCLK
27 N.C
26 N.C
25 EDTV2(H)
24 S-VHS LED
23 EDTV2 LED
22 NTSCSW
21 CTL P2
20 CS
19 CTL.P
18 RESET
17 VCC
1 MSSW
2 SCLK
3 N.C
4 SIN
5 N.C
6 N.C
7 N.C
8 WIDE LED
9 MCE
10 MDATA
11 MCLK
12 WIDE(H)
13 VREF
14 XIN
15 XOUT
16 VSS
4.6
2.1
5.1
3.9
(2.0)0
2.4
2.3
R758 4.7K
R757 4.7K
R756 100K
R751 1K
R752 1K
R753 1K
C751 22P
R754 1M
R755 680
CF751 4MHz PEVB0340
C753 0.1μ
C760 3.3/50
C752 1000P
C754 22P
C755 22P
C756 22P
C757 47P
C758 47P
C759 47P
R760 22K
R761 22K
R762 22K
R763 470
R764 470
R765 470
(Page 4-19, 20)
FROM/TO SYSCON
EDTV2(H)
GND
AL5V
S.V.CLK
S.V.CS
S.V.DATA
WIDE(H)
RESET
CTL_C/D

NOTE: Mark ( * ) is not used.

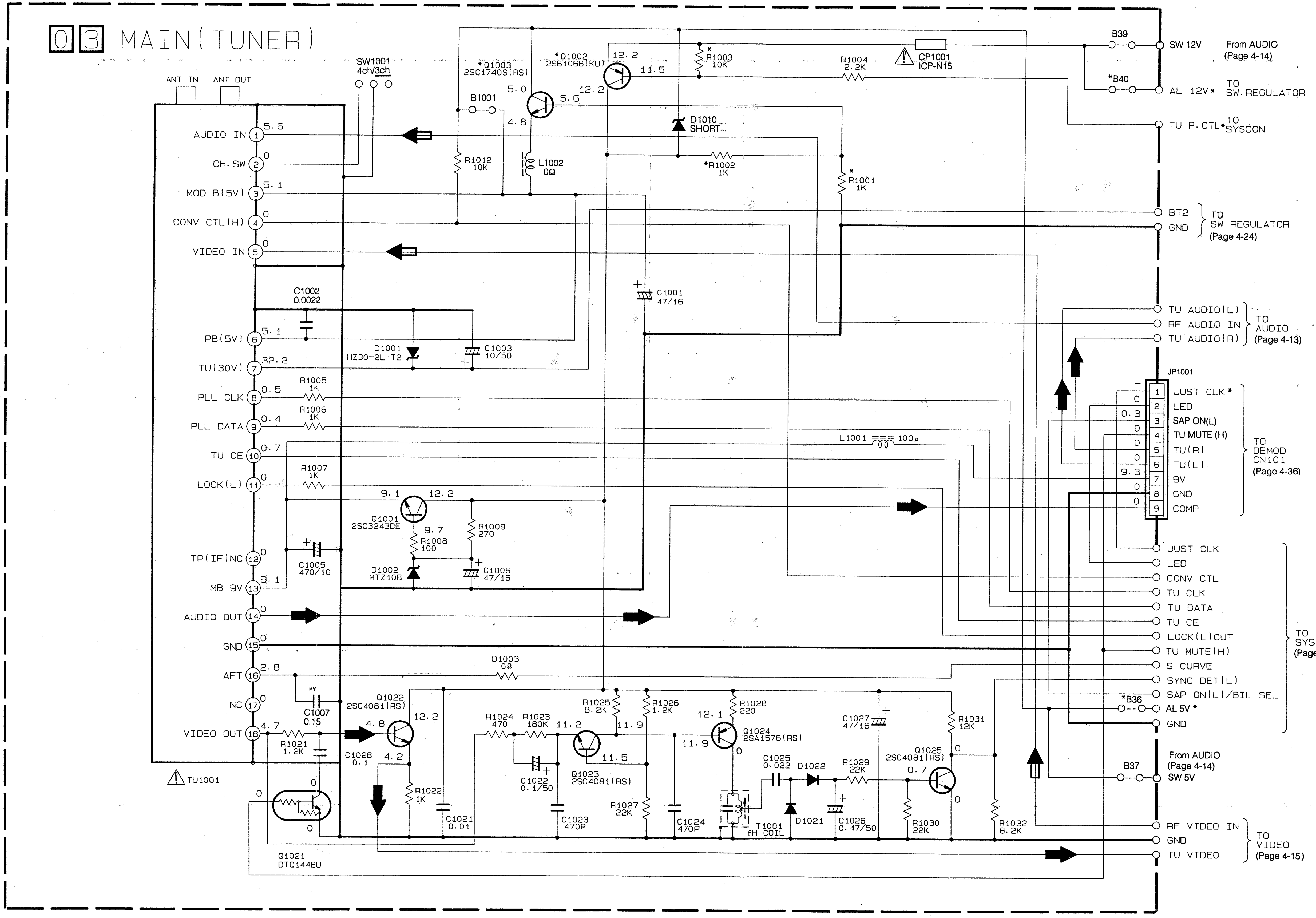
## 4.10 SWITCHING REGULATOR SCHEMATIC DIAGRAM


AC100V
50/60Hz
CN801
LIVE
NEUTRAL
F801
0.7A
125/250V
C802
0.047
125V
C804
OPEN
C809
2200p
/125
LF802
CR801
PECA0962
D802
10E6-F2
D801
10E6-F2
D803
10E6-F2
D804
10E6-F2
C810
82
200V
R804
68K
R815
47K
R805
68K
C812
1/50V
K801
D
Q801
2SK1445-CB14
2.5
G
S
0
R816
220K
C814
100p
1KV
D808
1SS133
MA165
1N4148M
R810
330
1W
C821
0.1
50V
R811
1.5K
R814
560
C816
0.01
50V
2.5
0.4
0
R808
0.27
1W
D806
OPEN
Q802
2SC3616(ML)
D807
RD15ES-T1B3
UZ15BSC
PC801
PC817
GROUND POINT
FOR PRIMARY
VOLTAGE
C817
OPEN
R817
OPEN
T801
PELN0426-04
D858
1SR153-200-T1
C855
100
10V
C859
0.01
50V
R851
4.7
C864
OPEN
R853
2.2K 2W
C851
22
63V
D851
1SR153-200-T1
L851
33µ
D852
RL2Z
-LFB2
D853
RL2Z-LFB2
L852
33µ
D856
21DQ04
C853
1200
10V
C852
820
16V
C854
22
50V
D860
RD15ES
-T1B1
UZ15BSA
R855
470
C856
470/10
C857
47/16
D862
RD30ES
-T1B1
UZ30BSA
D857
AU01Z
R852
47
1/4W
R856
374
C860
OPEN
D861
RD6.2ES
-T1B3
MTZV6.2C
UZ6.2BSC
C858
0.47
50V
11.3
0.6
0
Q851
2SC1740S(RS)
D885
11ES2
ERA15-02
R857
1.2K
R854
487
CP852
ICP-N25
CP
GROUND POINT
FOR SECONDARY
VOLTAGE
C865
OPEN
D863
1SR153-200-T1
D864
OPEN
C861
330
25V
L853
SHORT
C862
OPEN
11.6
Q886
2SB1256
19.8
19.8
R897
4.7K
R896
2.2K
19.8
0
0
Q885
DTC143TU
CP
CP851
ICP-N20
1.3
Q884
DTA114EU
12.4
12.4
Q881
2SC3616(MLK)
11.8
12.4
R881
470
R888
1K
R882
47K
C882
10
16V
C883
100
16V
L881
100µ
Q882
2SD1913(RS)
6.0
5.3
D883
1SS133
MA165
1N4148M
6.0
R884
470
R891
1K
C884
OPEN
D882
RD5.1JSB1
6.0
0.7
0
R885
470
B801
C881
100
6.3V
R886
470
R883
10K
Q883
2SC4081(R)
R885
SWD 5V
FROM/TO
SYSCON (Page 4-19)
AL5.8V
GND
DC3.9V(-)
-28V
DC3.9V(+)
M12V
GND
SW5V
SW12V
P.CTL(L)
V.UP(H)
AL12V
M12V/17V
TO SERVO (Page 4-18)
M12V
GND
GND
SW5V
TO VIDEO (Page 4-15)
GND
SW5V
SW12V
TO AUDIO (Page 4-14)
GND
SW5V
SW12V
AL6V
AL12V
TO TUNER (Page 4-26)
BT2
AL12V*
GND
03 MAIN(SW.REG)

6
5
4
3
2
1

A B C D E F G H

## 4.11 TUNER SCHEMATIC DIAGRAM



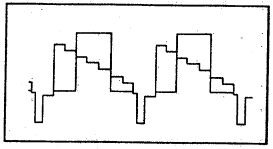
03 MAIN(TUNER)
ANT IN
ANT OUT
SW1001
4ch/3ch
AUDIO IN 1
CH. SW 2
MOD B(5V) 3
CONV CTL(H) 4
VIDEO IN 5
PB(5V) 6
TU(30V) 7
PLL CLK 8
PLL DATA 9
TU CE 10
LOCK(L) 11
TP(IF)NC 12
MB 9V 13
AUDIO OUT 14
GND 15
AFT 16
NC 17
VIDEO OUT 18
5.6
0
5.1
0
0
5.1
32.2
0.5
0.4
0.7
0
0
9.1
0
0
2.8
0
4.7
TU1001
*Q1003
2SC1740S(RS)
*Q1002
2SB1068(KU)
12.2
11.5
5.0
12.2
5.6
4.8
B1001
R1012
10K
L1002
0Ω
*R1003
10K
R1004
2.2K
CP1001
ICP-N15
D1010
SHORT
*R1002
1K
*R1001
1K
C1001
47/16
C1002
0.0022
D1001
HZ30-2L-T2
C1003
10/50
R1005
1K
R1006
1K
R1007
1K
L1001 100μ
Q1001
2SC3243DE
9.1
12.2
9.7
R1008
100
R1009
270
D1002
MTZ10B
C1005
470/10
C1006
47/16
D1003
0Ω
C1007
0.15
Q1022
2SC4081(RS)
12.2
4.8
4.2
R1021
1.2K
C1028
0.1
R1022
1K
C1021
0.01
R1024
470
R1023
180K
11.2
C1022
0.1/50
Q1023
2SC4081(RS)
11.5
C1023
470P
R1025
8.2K
R1026
1.2K
11.9
R1027
22K
C1024
470P
12.1
11.9
R1028
220
Q1024
2SA1576(RS)
0
C1025
0.022
D1022
T1001
fH COIL
D1021
C1027
47/16
R1029
22K
C1026
0.47/50
Q1025
2SC4081(RS)
0.7
0
0
R1030
22K
R1031
12K
R1032
8.2K
Q1021
DTC144EU
0
0
0
B39
SW 12V
From AUDIO
(Page 4-14)
*B40
AL 12V*
TO
SW.REGULATOR
TU P.CTL*
TO
SYSCON
BT2
GND
TO
SW REGULATOR
(Page 4-24)
TU AUDIO(L)
RF AUDIO IN
TU AUDIO(R)
TO
AUDIO
(Page 4-13)
JP1001
1 JUST CLK*
2 LED
3 SAP ON(L)
4 TU MUTE (H)
5 TU(R)
6 TU(L)
7 9V
8 GND
9 COMP
-
0
0.3
0
0
0
9.3
0
0
TO
DEMOD
CN101
(Page 4-36)
JUST CLK
LED
CONV CTL
TU CLK
TU DATA
TU CE
LOCK(L)OUT
TU MUTE(H)
S CURVE
SYNC DET(L)
SAP ON(L)/BIL SEL
*B36
AL 5V *
GND
TO
SYSCON
(Page 4-19)
B37
From AUDIO
(Page 4-14)
SW 5V
RF VIDEO IN
GND
TU VIDEO
TO
VIDEO
(Page 4-15)

NOTE: Mark ( * ) is not used.

# WAVEFORMS

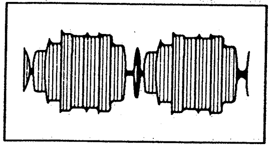
## — VIDEO —

**WF1** CN201-1 LPF.D Y



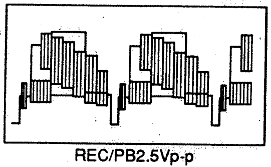
REC./PB1.0Vp-p
50mV/20µsec/DIV

**WF2** CN201-3 BPF.D C



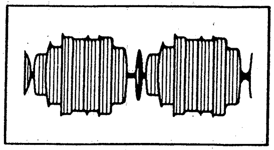
REC/PB0.7Vp-p
50mV/20µsec/DIV

**WF3** CN201-5 +6dB V



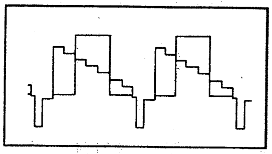
REC/PB2.5Vp-p
0.1V/20µsec/DIV

**WF4** CN201-7 +6dB C



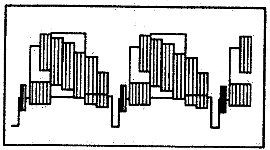
REC/PB1.2Vp-p
0.1V/20µsec/DIV

**WF5** CN201-9 +6dB Y



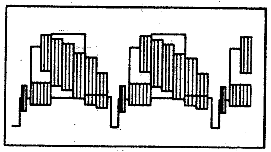
REC/PB2.2Vp-p
0.1V/20µsec/DIV

**WF6** CN201-25 SEL.D Y/V



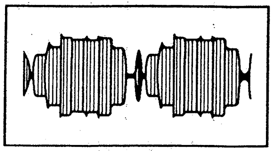
REC/PB1.0Vp-p
50mV/20µsec/DIV

**WF7** CN202-12 C TO SEP



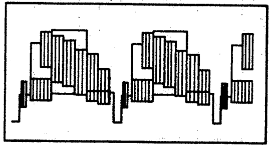
REC0.9Vp-p
50mV/20µsec/DIV

**WF7** CN202-12 C TO SEP



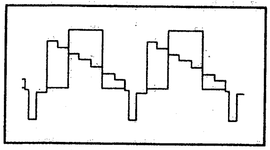
PB0.8Vp-p
50mV/20µsec/DIV

**WF8** CN202-14 Y/V TO SEP



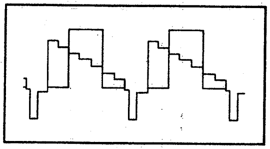
REC1.0Vp-p
50mV/20µsec/DIV

**WF8** CN202-14 Y/V TO SEP



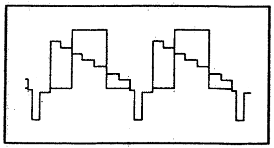
PB1.0Vp-p
50mV/20µsec/DIV

**WF9** CN202-18 SEPA'D Y1



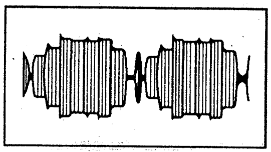
REC/PB1.0Vp-p
50mV/20µsec/DIV

**WF10** CN202-21 SEPA.D Y2/COMB.D C



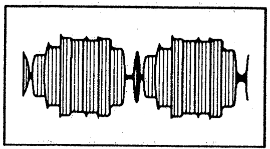
REC1.0Vp-p
50mV/20µsec/DIV

**WF10** CN202-21 SEPA.D Y2/COMB.D C



PB0.7Vp-p
50mV/20µsec/DIV

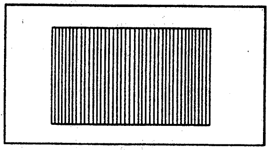
**WF11** CN202-22 SEPA.D C



REC/PB0.7Vp-p
50mV/20µsec/DIV

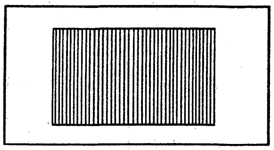
## — AUDIO —

**WF1** CN102-1



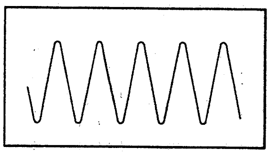
REC43.0Vp-p
1.0V/0.2msec/DIV

**WF2** CN102-4



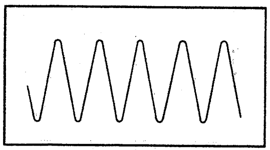
REC35.0Vp-p
1.0V/0.2msec/DIV

**WF3** IC101-12



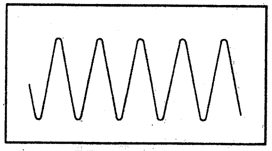
PB0.1Vp-p
5mV/0.5msec/DIV

**WF4** IC101-16



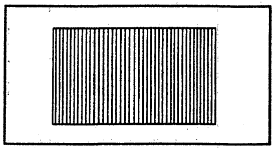
REC0.25Vp-p
10mV/0.5msec/DIV

**WF5** IC101-22



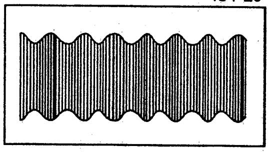
REC/PB2.5Vp-p
0.1V/5msec/DIV

**WF6** IC1-13



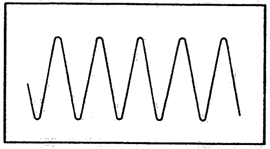
REC0.7Vp-p
20mV/10msec/DIV

**WF7** IC1-20



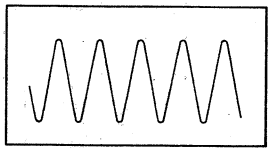
PB0.4Vp-p
20mV/1msec/DIV

**WF8** IC1-45



REC1.2Vp-p/PB1.0Vp-p
50mV/0.5msec/DIV

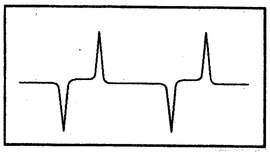
**WF9** IC1-43



REC2.4Vp-p/PB2.0Vp-p
0.1V/0.5msec/DIV

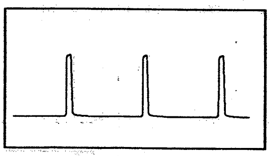
## — SERVO —

**WF1** TP401 CTL.PULSE



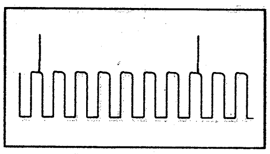
PB2.5Vp-p
0.1V/5msec/DIV

**WF2** IC401-2 C.SYNC



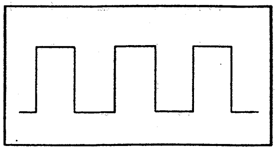
REC/PB5.0Vp-p
0.2V/20µsec/DIV

**WF3** IC401-22 FG/PG



REC/PB4.0Vp-p
0.2V/5msec/DIV

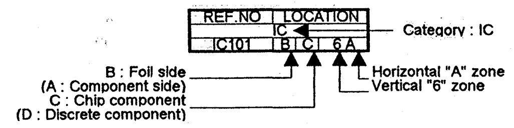
**WF4** IC401-21 D.FF



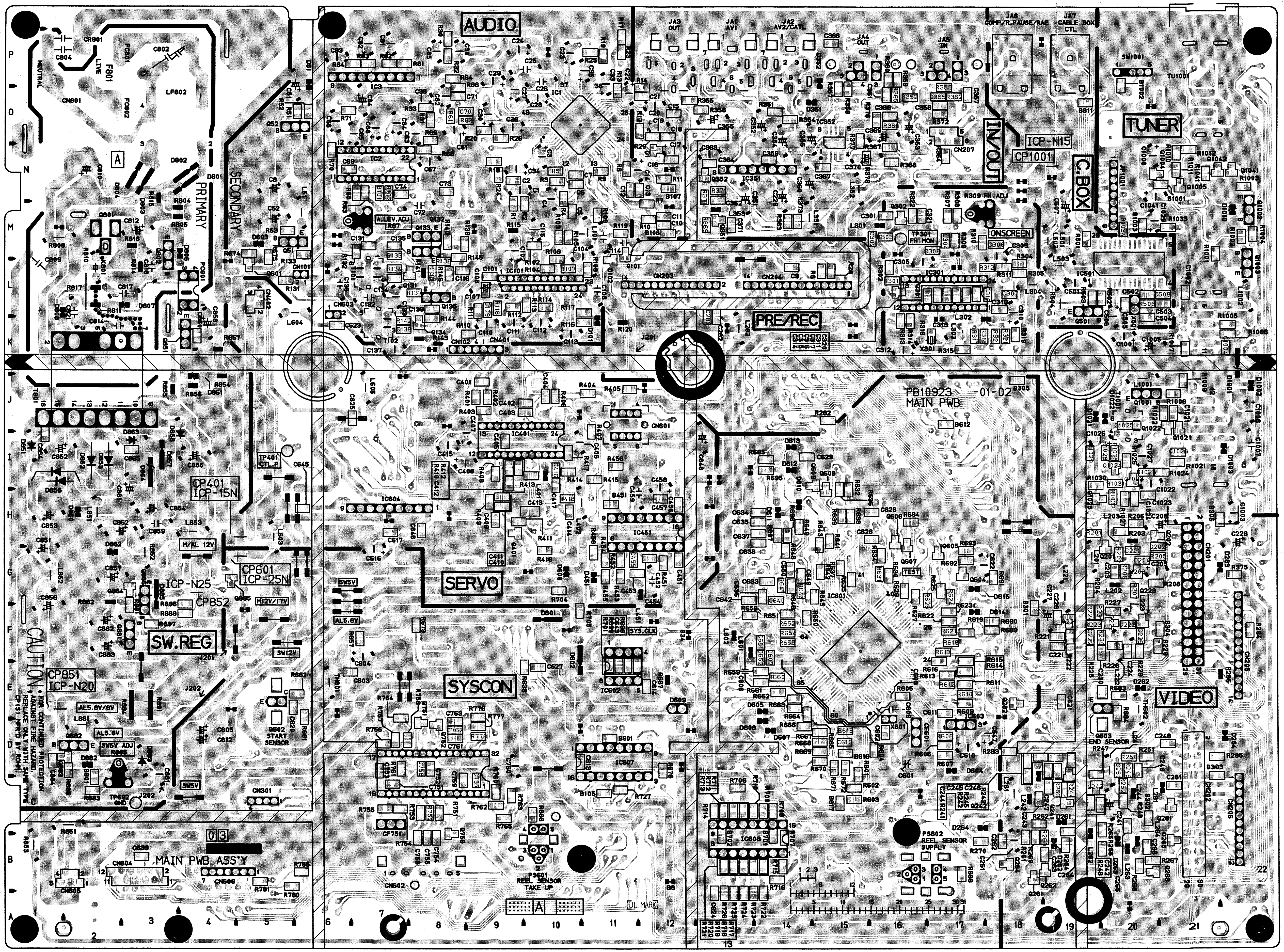
REC/PB5.0Vp-p
0.2V/5msec/DIV

# COMPONENT PARTS LOCATION GUIDE

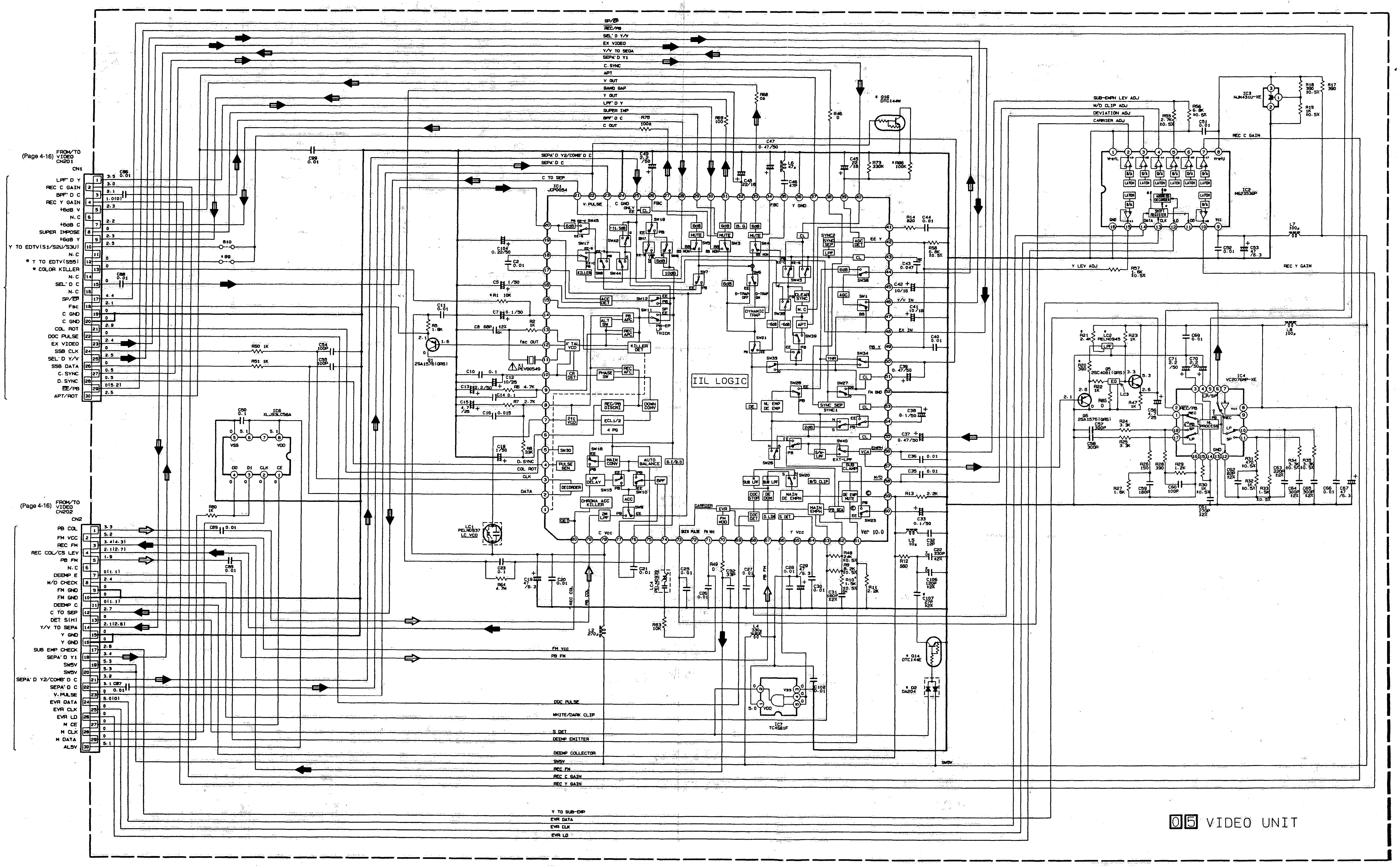
| REF.NO | LOCATION | | |
|---|---|---|---|
| CAPACITOR | | | |
| C1 | A | D | 10N |
| C2 | B | C | 9N |
| C3 | A | D | 10N |
| C4 | A | D | 10N |
| C5 | B | C | 10M |
| C6 | B | C | 10N |
| C7 | B | C | 10N |
| C8 | A | D | 5N |
| C9 | B | C | 14L |
| C10 | B | C | 12M |
| C11 | B | C | 12M |
| C12 | B | C | 11N |
| C13 | B | C | 12N |
| C14 | A | D | 12N |
| C15 | B | C | 12O |
| C16 | B | C | 12N |
| C17 | A | D | 12N |
| C18 | B | C | 12O |
| C19 | A | D | 12O |
| C20 | A | D | 12O |
| C21 | B | C | 12O |
| C22 | A | D | 11O |
| C23 | A | D | 10P |
| C24 | A | D | 10P |
| C25 | A | D | 10P |
| C26 | A | D | 10P |
| C27 | A | D | 9O |
| C28 | A | D | 10O |
| C29 | A | D | 9P |
| C30 | A | D | 9O |
| C33 | A | D | 11O |
| C34 | A | D | 9N |
| C35 | A | D | 11P |
| C36 | A | D | 9O |
| C38 | A | D | 8O |
| C39 | A | D | 8P |
| C51 | A | D | 6O |
| C52 | A | D | 5M |
| C61 | A | D | 8O |
| C62 | A | D | 8O |
| C63 | A | D | 8O |
| C64 | A | D | 7O |
| C65 | A | D | 7O |
| C66 | A | D | 6O |
| C67 | A | D | 8N |
| C68 | A | D | 7O |
| C69 | B | C | 6N |
| C70 | B | C | 9O |
| C71 | B | C | 8O |
| C72 | A | D | 8M |
| C73 | B | C | 8N |
| C74 | B | C | 7N |
| C81 | A | D | 7P |
| C82 | A | D | 7P |
| C83 | A | D | 6P |
| C84 | A | D | 7O |
| C85 | A | D | 8P |
| C101 | B | C | 9L |
| C102 | A | D | 9M |
| C104 | A | D | 10M |
| C105 | A | D | 11M |
| C106 | A | D | 11L |
| C107 | A | D | 9L |
| C108 | B | C | 9L |
| C109 | B | C | 9L |
| C110 | A | D | 9K |
| C111 | A | D | 9K |
| C112 | A | D | 10K |
| C113 | A | D | 10K |
| C114 | A | D | 11M |
| C115 | A | D | 10M |
| C116 | B | C | 8L |
| C131 | B | C | 7M |
| C132 | A | D | 7L |
| C133 | A | D | 7L |
| C134 | B | C | 7L |
| C135 | B | C | 7M |
| C136 | A | D | 6L |
| C137 | A | D | 7K |
| C138 | B | C | 7K |
| C139 | B | C | 8L |
| C201 | B | C | 20G |
| C202 | B | C | 21H |
| C203 | B | C | 20G |
| C204 | B | C | 20G |
| C205 | A | D | 20G |
| C206 | A | D | 21H |
| C221 | B | C | 19F |
| C222 | B | C | 19F |
| C223 | B | C | 20F |
| C224 | B | C | 20F |
| C225 | B | C | 20F |
| C226 | B | C | 19F |
| C227 | A | D | 19F |
| C228 | A | D | 22H |
| C229 | A | D | 14M |
| C230 | B | C | 20F |
| C241 | A | D | 20C |
| C242 | B | C | 20C |
| C243 | B | C | 18C |
| C244 | B | C | 18D |
| C245 | B | C | 18D |
| C246 | B | C | 19D |
| C247 | B | C | 19C |
| C248 | B | C | 21D |
| C249 | B | C | 20D |
| C250 | B | C | 20D |
| C261 | A | D | 18B |
| C262 | B | C | 18B |
| C263 | B | C | 19B |
| C264 | B | C | 19C |
| C265 | B | C | 20C |
| C266 | B | C | 20B |
| C281 | B | C | 21C |
| C282 | B | C | 13L |
| C283 | B | C | 13L |
| C301 | B | C | 16M |
| C302 | B | C | 16M |
| C303 | A | D | 17L |
| C304 | B | C | 17M |
| C305 | A | D | 17L |
| C306 | B | C | 18M |
| C307 | B | C | 18L |
| C308 | B | C | 17M |
| C309 | A | D | 18M |
| C310 | A | D | 18L |
| C311 | B | C | 17L |
| C312 | A | D | 16K |
| C313 | A | D | 17K |
| C314 | B | C | 17L |
| C315 | B | C | 17L |
| C316 | B | C | 17L |
| C317 | B | C | 17L |
| C318 | B | C | 18L |
| C319 | B | C | 18L |
| C320 | B | C | 17L |
| C321 | B | C | 16M |
| C351 | A | D | 13M |
| C352 | A | D | 14O |
| C353 | A | D | 16O |
| C354 | A | D | 14N |
| C355 | A | D | 13O |
| C356 | A | D | 15N |
| C357 | B | C | 17O |
| C358 | B | C | 17O |
| C359 | B | C | 14N |
| C360 | A | D | 14N |
| C361 | B | C | 16O |
| C362 | B | C | 13N |
| C363 | A | D | 13N |
| C364 | B | C | 13N |
| C365 | B | C | 17O |
| C366 | B | C | 15P |
| C367 | B | C | 15N |
| C368 | B | C | 16O |
| C369 | A | D | 16O |
| C370 | A | D | 15N |
| C371 | B | C | 13M |
| C401 | B | C | 9J |
| C402 | B | C | 10J |
| C403 | B | C | 10J |
| C404 | B | C | 10J |
| C405 | B | C | 9I |
| C406 | A | D | 11I |
| C407 | A | D | 9I |
| C408 | A | D | 8I |
| C409 | B | C | 9H |
| C410 | B | C | 9H |
| C411 | B | C | 9H |
| C412 | B | C | 9I |
| C413 | B | C | 10H |
| C414 | B | C | 10H |
| C415 | A | D | 8I |
| C416 | B | C | 10I |
| C417 | B | C | 10I |
| C451 | B | C | 12G |
| C452 | A | D | 12G |
| C453 | B | C | 12G |
| C454 | B | C | 12G |
| C455 | B | C | 11G |
| C456 | B | C | 12H |
| C457 | B | C | 12H |
| C458 | A | D | 12I |
| C459 | A | D | 12H |
| C501 | A | D | 19L |
| C502 | B | C | 20L |
| C503 | B | C | 21L |
| C504 | B | C | 20L |
| C505 | B | C | 20L |
| C506 | A | D | 20L |
| C507 | A | D | 19M |
| C508 | B | C | 21L |
| C601 | A | D | 16D |
| C602 | B | C | 16D |
| C603 | B | C | 7E |
| C604 | A | D | 7F |
| C605 | A | D | 4D |
| C607 | B | C | 14F |
| C610 | A | D | 17D |
| C611 | B | C | 17E |
| C612 | A | D | 4D |
| C613 | B | C | 11D |
| C614 | B | C | 12E |
| C616 | A | D | 7G |
| C617 | B | C | 7H |
| C619 | B | C | 15D |
| C620 | B | C | 6E |
| C621 | B | C | 19E |
| C622 | A | D | 18G |
| C623 | B | C | 6K |
| C624 | B | C | 13A |
| C625 | B | C | 7J |
| C626 | B | C | 16H |
| C627 | B | C | 10E |
| C628 | B | C | 16H |
| C629 | B | C | 14I |
| C633 | B | C | 14G |
| C634 | B | C | 14H |
| C635 | B | C | 14H |
| C636 | B | C | 14G |
| C637 | B | C | 14H |
| C638 | B | C | 14H |
| C639 | B | C | 3B |
| C640 | B | C | 14G |
| C642 | B | C | 13G |
| C643 | B | C | 11E |
| C645 | B | C | 6H |
| C646 | B | C | 8H |
| C647 | A | D | 18D |
| C648 | A | D | 13I |
| C649 | B | C | 14G |
| C650 | B | C | 14G |
| C651 | B | C | 14F |
| C652 | B | C | 14F |
| C751 | B | C | 7C |
| C752 | B | C | 8D |
| C753 | B | C | 7D |
| C754 | B | C | 8B |
| C755 | B | C | 8B |
| C756 | B | C | 8B |
| C757 | B | C | 9C |
| C758 | B | C | 8D |
| C759 | B | C | 8C |
| C760 | A | D | 9D |
| C761 | B | C | 8D |
| C762 | B | C | 8D |
| C763 | B | C | 8D |
| C802 | A | D | 4P |
| C804 | A | D | 1P |
| C809 | A | D | 1M |
| C810 | A | D | 2N |
| C812 | A | D | 3M |
| C814 | A | D | 3K |
| C816 | A | D | 3L |
| C817 | A | D | 2L |
| C821 | A | D | 2K |
| C851 | A | D | 1G |
| C852 | A | D | 2I |
| C853 | A | D | 1H |
| C854 | A | D | 3H |
| C855 | A | D | 4I |
| C856 | A | D | 1F |
| C857 | A | D | 3G |
| C858 | A | D | 4L |
| C859 | A | D | 3H |
| C860 | B | C | 4K |
| C861 | A | D | 3I |
| C862 | A | D | 3H |
| C864 | B | C | 1I |
| C865 | B | C | 3I |
| C881 | A | D | 3D |
| C882 | A | D | 2F |
| C883 | A | D | 2F |
| C884 | B | C | 1D |
| C1001 | A | D | 20K |
| C1002 | B | C | 21L |
| C1003 | A | D | 22H |
| C1004 | B | C | 22K |
| C1005 | A | D | 20K |
| C1006 | A | D | 22J |
| C1007 | A | D | 22I |
| C1008 | A | D | 20N |
| C1021 | B | C | 21J |
| C1022 | A | D | 20I |
| C1023 | B | C | 20H |
| C1024 | B | C | 20H |
| C1025 | B | C | 20J |
| C1026 | A | D | 20I |
| C1027 | A | D | 20I |
| C1028 | B | C | 21I |
| C1029 | A | D | 20M |
| C1041 | A | D | 20N |
| CONNECTOR | | | |
| CN101 | A | D | 6L |
| CN102 | A | D | 8K |
| CN201 | A | D | 21H |
| CN202 | A | D | 21D |
| CN203 | A | D | 13L |
| CN204 | A | D | 15L |
| CN205 | A | D | 22G |
| CN206 | A | D | 22C |
| CN207 | A | D | 17O |
| CN301 | A | D | 5C |
| CN401 | A | D | 9K |
| CN402 | A | D | 5L |
| CN601 | A | D | 11J |
| CN602 | A | D | 7B |
| CN603 | A | D | 6L |
| CN604 | A | D | 3B |
| CN605 | A | D | 2B |
| CN606 | A | D | 5B |
| CN801 | A | D | 2P |
| JP1001 | A | D | 20N |
| CP | | | |
| CP401 | A | D | 4H |
| CP601 | A | D | 4G |
| CP851 | A | D | 1E |
| CP852 | A | D | 4G |
| CP1001 | A | D | 19N |
| DIODE | | | |
| D1 | B | C | 12N |
| D51 | A | D | 6P |
| D101 | A | D | 11K |
| D102 | B | C | 11L |
| D261 | A | D | 19C |
| D262 | A | D | 19C |
| D263 | A | D | 20C |
| D264 | A | D | 18C |
| D265 | B | C | 21B |
| D282 | A | D | 20E |
| D283 | A | D | 22G |
| D284 | A | D | 22D |
| D351 | A | D | 14O |
| D352 | A | D | 15O |
| D451 | A | D | 11G |
| D601 | A | D | 10F |
| D602 | A | D | 11F |
| D603 | A | D | 5M |
| D604 | A | D | 17D |
| D605 | A | D | 14E |
| D606 | A | D | 14D |
| D607 | A | D | 14D |
| D608 | A | D | 10G |
| D609 | A | D | 12E |
| D610 | A | D | 14H |
| D611 | A | D | 14H |
| D612 | A | D | 14I |
| D613 | A | D | 14I |
| D614 | A | D | 17F |
| D615 | A | D | 17G |
| D801 | A | D | 4N |
| D802 | A | D | 3N |
| D803 | A | D | 3N |
| D804 | A | D | 3N |
| D806 | A | D | 4M |
| D807 | A | D | 3L |
| D808 | A | D | 2K |
| D851 | A | D | 1I |
| D852 | A | D | 2I |
| D853 | A | D | 2I |
| D856 | A | D | 2I |
| D857 | A | D | 3I |
| D858 | A | D | 4J |
| D860 | A | D | 2H |
| D861 | A | D | 4J |
| D862 | A | D | 3G |
| D863 | A | D | 3I |
| D864 | A | D | 3H |
| D882 | A | D | 2D |
| D883 | A | D | 3D |
| D885 | A | D | 3G |
| D1001 | A | D | 22K |
| D1002 | A | D | 22J |
| D1003 | A | D | 22I |
| D1010 | A | D | 22M |
| D1021 | A | D | 19J |
| D1022 | A | D | 20J |
| FUSE | | | |
| F801 | A | D | 2O |
| IC | | | |
| IC1 | B | C | 11O |
| IC2 | A | D | 8N |
| IC3 | A | D | 8P |
| IC101 | A | D | 9L |
| IC301 | A | D | 17L |
| IC351 | A | D | 14N |
| IC352 | B | C | 15O |
| IC401 | A | D | 10I |
| IC451 | A | D | 12H |
| IC501 | B | C | 20L |
| IC601 | B | C | 15F |
| IC602 | A | D | 11F |
| IC603 | A | D | 17D |
| IC604 | A | D | 8H |
| IC607 | A | D | 11D |
| IC608 | A | D | 14B |
| IC751 | A | D | 9C |
| COIL | | | |
| L51 | A | D | 6M |
| L101 | A | D | 11M |
| L201 | A | D | 19G |
| L202 | A | D | 20G |
| L203 | A | D | 20H |
| L221 | A | D | 19F |
| L222 | A | D | 20F |
| L223 | A | D | 20F |
| L241 | A | D | 20C |
| L242 | A | D | 18C |
| L243 | A | D | 18C |
| L244 | A | D | 20C |
| L261 | A | D | 18C |
| L262 | A | D | 19B |
| L263 | A | D | 20B |
| L264 | A | D | 20B |
| L281 | A | D | 21C |
| L282 | A | D | 13K |
| L301 | A | D | 16M |
| L302 | A | D | 17K |
| L303 | A | D | 17K |
| L304 | A | D | 18L |
| L351 | A | D | 14M |
| L352 | A | D | 15N |
| L353 | A | D | 13M |
| L401 | A | D | 10I |
| L402 | A | D | 11H |
| L451 | A | D | 12G |
| L501 | A | D | 19M |
| L502 | A | D | 19M |
| L503 | A | D | 19L |
| L601 | A | D | 13F |
| L602 | A | D | 13F |
| L603 | A | D | 5H |
| L604 | A | D | 6L |
| L605 | A | D | 7J |
| L851 | A | D | 2H |
| L852 | A | D | 1G |
| L853 | A | D | 4H |
| L881 | A | D | 2D |
| L1001 | A | D | 20J |
| L1002 | A | D | 22L |
| TRANSISTOR | | | |
| Q51 | A | D | 6M |
| Q52 | A | D | 6O |
| Q101 | B | C | 11M |
| Q131 | B | C | 8L |
| Q132 | A | D | 8M |
| Q133 | A | D | 8M |
| Q134 | B | C | 8K |
| Q135 | A | D | 8L |
| Q201 | B | C | 20H |
| Q202 | B | C | 21H |
| Q203 | B | C | 20G |
| Q221 | B | C | 19F |
| Q222 | B | C | 20F |
| Q223 | B | C | 20F |
| Q241 | B | C | 19C |
| Q242 | B | C | 19D |
| Q243 | B | C | 19C |
| Q261 | B | C | 18B |
| Q262 | B | C | 19B |
| Q263 | B | C | 20B |
| Q264 | B | C | 18B |
| Q281 | B | C | 21C |
| Q282 | B | C | 18E |
| Q301 | B | C | 16L |
| Q302 | B | C | 16M |
| Q351 | B | C | 13M |
| Q352 | B | C | 13N |
| Q401 | B | C | 9H |
| Q501 | A | D | 19L |
| Q601 | B | C | 5L |
| Q602 | A | D | 5E |
| Q603 | A | D | 20E |
| Q604 | B | C | 17G |
| Q605 | B | C | 17G |
| Q606 | B | C | 16H |
| Q607 | B | C | 16H |
| Q608 | B | C | 15I |
| Q609 | B | C | 15I |
| Q751 | B | C | 8D |
| Q752 | B | C | 8D |
| Q756 | B | C | 8C |
| Q801 | A | D | 2M |
| Q802 | A | D | 3M |
| Q851 | A | D | 4K |
| Q881 | A | D | 3F |
| Q882 | A | D | 2D |
| Q883 | B | C | 2D |
| Q884 | B | C | 3G |
| Q885 | B | C | 4G |
| Q886 | A | D | 3G |
| Q1001 | A | D | 20J |
| Q1002 | A | D | 22N |
| Q1003 | A | D | 22L |
| Q1004 | B | C | 20N |
| Q1005 | B | C | 21N |
| Q1021 | B | C | 21J |
| Q1022 | B | C | 21J |
| Q1023 | B | C | 20I |
| Q1024 | B | C | 20I |
| Q1025 | B | C | 20H |
| Q1041 | B | C | 22N |
| Q1042 | B | C | 22N |
| RESISTOR | | | |
| R1 | B | C | 9M |
| R2 | B | C | 10M |
| R3 | B | C | 10N |
| R4 | B | C | 10N |
| R5 | B | C | 10N |
| R6 | B | C | 15L |
| R7 | B | C | 12M |
| R8 | B | C | 11N |
| R9 | B | C | 11N |
| R10 | B | C | 12M |
| R11 | B | C | 12N |
| R12 | B | C | 12O |
| R13 | B | C | 11O |
| R14 | B | C | 12O |
| R17 | B | C | 11P |
| R18 | B | C | 9N |
| R19 | B | C | 11P |
| R20 | B | C | 9O |
| R23 | B | C | 11P |
| R24 | B | C | 9N |
| R25 | B | C | 11P |
| R26 | B | C | 9O |
| R28 | B | C | 15L |
| R29 | B | C | 12O |
| R30 | B | C | 8P |
| R31 | B | C | 8O |
| R32 | B | C | 8P |
| R33 | B | C | 8O |
| R51 | B | C | 6O |
| R52 | B | C | 6O |
| R53 | B | C | 5M |
| R61 | B | C | 8O |
| R62 | B | C | 9O |
| R63 | B | C | 7N |
| R64 | B | C | 8P |
| R65 | B | C | 7N |
| R66 | B | C | 8O |
| R67 | A | D | 7M |
| R68 | B | C | 8N |
| R69 | B | C | 8O |
| R70 | B | C | 6N |
| R71 | B | C | 6O |
| R81 | B | C | 7P |
| R82 | B | C | 7P |
| R83 | B | C | 7P |
| R84 | B | C | 7P |
| R102 | B | C | 10M |
| R103 | B | C | 10M |
| R104 | B | C | 10L |
| R105 | B | C | 10M |
| R106 | B | C | 10M |
| R107 | B | C | 10L |
| R108 | B | C | 11L |
| R109 | B | C | 11M |
| R110 | B | C | 9K |
| R111 | B | C | 9L |
| R112 | B | C | 9L |
| R113 | B | C | 10L |
| R114 | B | C | 10L |
| R115 | A | D | 10M |
| R116 | B | C | 11K |
| R117 | B | C | 11L |
| R118 | B | C | 9L |
| R119 | B | C | 11M |
| R120 | A | D | 11K |
| R131 | B | C | 5L |
| R132 | B | C | 7M |
| R133 | B | C | 6M |
| R134 | B | C | 7L |
| R135 | B | C | 7M |
| R136 | B | C | 8L |
| R137 | B | C | 8L |
| R138 | B | C | 8L |
| R139 | B | C | 9M |
| R140 | B | C | 8M |
| R141 | A | D | 8L |
| R142 | B | C | 7K |
| R143 | A | D | 8K |
| R144 | B | C | 8K |
| R145 | B | C | 8M |
| R146 | B | C | 8L |
| R201 | B | C | 19H |
| R202 | B | C | 20G |
| R203 | B | C | 20H |
| R204 | B | C | 19G |
| R205 | B | C | 21G |
| R206 | B | C | 20H |
| R207 | B | C | 20G |
| R208 | B | C | 20G |
| R209 | B | C | 20G |
| R221 | B | C | 19F |
| R222 | B | C | 19F |
| R223 | B | C | 19F |
| R224 | B | C | 19F |
| R225 | B | C | 19F |
| R226 | B | C | 20F |
| R227 | B | C | 20F |
| R228 | B | C | 20F |
| R229 | B | C | 21F |
| R230 | B | C | 20F |
| R231 | B | C | 19F |
| R241 | B | C | 18D |
| R242 | B | C | 19D |
| R243 | B | C | 19D |
| R244 | B | C | 19C |
| R245 | B | C | 19D |
| R246 | B | C | 19C |
| R247 | B | C | 19D |
| R248 | B | C | 20C |
| R249 | B | C | 20D |
| R250 | B | C | 20D |
| R251 | B | C | 20D |
| R252 | B | C | 20C |
| R253 | B | C | 19C |
| R261 | B | C | 18B |
| R262 | B | C | 18C |
| R263 | B | C | 19B |
| R264 | B | C | 19B |
| R265 | B | C | 20C |
| R266 | B | C | 20B |
| R267 | B | C | 20B |
| R268 | B | C | 20B |
| R269 | B | C | 18B |
| R270 | B | C | 17B |
| R282 | B | C | 15J |
| R283 | B | C | 18D |
| R284 | B | C | 22F |
| R285 | B | C | 21D |
| R286 | A | D | 22E |
| R301 | B | C | 16L |
| R302 | B | C | 16L |
| R303 | B | C | 16M |
| R304 | B | C | 18L |
| R305 | B | C | 18L |
| R306 | B | C | 17M |
| R307 | B | C | 17M |
| R308 | B | C | 17M |
| R309 | A | D | 17M |
| R310 | B | C | 17M |
| R311 | B | C | 18L |
| R312 | B | C | 18L |
| R313 | B | C | 16K |
| R314 | B | C | 16K |
| R315 | B | C | 17K |
| R316 | B | C | 17K |
| R317 | B | C | 17K |
| R318 | B | C | 18K |
| R319 | B | C | 18K |
| R320 | B | C | 18K |
| R321 | B | C | 18K |
| R322 | B | C | 16M |
| R351 | B | C | 14O |
| R352 | B | C | 16O |
| R353 | B | C | 17P |
| R354 | B | C | 14O |
| R355 | B | C | 12O |
| R356 | B | C | 13O |
| R357 | B | C | 15O |
| R358 | B | C | 15O |
| R359 | B | C | 16P |
| R360 | B | C | 16P |
| R362 | B | C | 17O |
| R363 | B | C | 14M |
| R364 | B | C | 17N |
| R365 | B | C | 16O |
| R366 | B | C | 16O |
| R367 | B | C | 16N |
| R368 | B | C | 16N |
| R369 | B | C | 13M |
| R370 | B | C | 13N |
| R371 | B | C | 13N |
| R372 | B | C | 17O |
| R373 | B | C | 14M |
| R375 | B | C | 22G |
| R376 | B | C | 16O |
| R377 | B | C | 15O |
| R378 | B | C | 15N |
| R401 | B | C | 9J |
| R402 | B | C | 9J |
| R403 | B | C | 9J |
| R404 | B | C | 11J |
| R405 | B | C | 11J |
| R406 | B | C | 10J |
| R407 | B | C | 11J |
| R408 | B | C | 9I |
| R409 | B | C | 9H |
| R410 | B | C | 9I |
| R411 | B | C | 9H |
| R412 | B | C | 9I |
| R413 | B | C | 10I |
| R414 | B | C | 10I |
| R415 | B | C | 11I |
| R416 | B | C | 10G |
| R417 | B | C | 10I |
| R418 | B | C | 10H |
| R451 | B | C | 12G |
| R452 | B | C | 11G |
| R453 | B | C | 11G |
| R454 | B | C | 11G |
| R455 | B | C | 11G |
| R456 | B | C | 11I |
| R458 | B | C | 11G |
| R501 | B | C | 19M |
| R502 | B | C | 20L |
| R503 | B | C | 19L |
| R504 | A | D | 19L |
| R506 | B | C | 20L |
| R601 | B | C | 15D |
| R602 | B | C | 15C |
| R603 | B | C | 15C |
| R604 | B | C | 16D |
| R605 | B | C | 16E |
| R606 | B | C | 17D |
| R607 | B | C | 17D |
| R608 | B | C | 17D |
| R609 | B | C | 17E |
| R610 | B | C | 17E |
| R611 | B | C | 17E |
| R612 | B | C | 17E |
| R613 | B | C | 17E |
| R614 | B | C | 17E |
| R615 | B | C | 17F |
| R616 | B | C | 17F |
| R617 | B | C | 17F |
| R618 | B | C | 17F |
| R619 | B | C | 17F |
| R621 | B | C | 17F |
| R622 | B | C | 17F |
| R623 | B | C | 17F |
| R624 | B | C | 17G |
| R625 | B | C | 17G |
| R626 | B | C | 17G |
| R627 | B | C | 16G |
| R629 | B | C | 16G |
| R630 | B | C | 16G |
| R631 | B | C | 16G |
| R632 | B | C | 15I |
| R633 | B | C | 10E |
| R634 | B | C | 16G |
| R635 | B | C | 15G |
| R636 | B | C | 15I |
| R637 | B | C | 15G |
| R638 | B | C | 15H |
| R639 | B | C | 15H |
| R641 | B | C | 15H |
| R642 | B | C | 15G |
| R643 | B | C | 15H |
| R644 | B | C | 14G |
| R645 | B | C | 15G |
| R646 | B | C | 14G |
| R647 | B | C | 14G |
| R648 | B | C | 14G |
| R649 | B | C | 14H |
| R650 | B | C | 14F |
| R651 | B | C | 14F |
| R652 | B | C | 14F |
| R654 | B | C | 14F |
| R655 | B | C | 14F |
| R657 | B | C | 7F |
| R658 | B | C | 13F |
| R659 | B | C | 14E |
| R660 | B | C | 14E |
| R661 | B | C | 14E |
| R662 | B | C | 14E |
| R663 | B | C | 14E |
| R664 | B | C | 14E |
| R665 | B | C | 14E |
| R666 | B | C | 14D |
| R667 | B | C | 15D |
| R668 | B | C | 15D |
| R669 | B | C | 15D |
| R670 | B | C | 15D |
| R671 | B | C | 15D |
| R672 | B | C | 15D |
| R673 | B | C | 8F |
| R674 | B | C | 5M |
| R675 | B | C | 5M |
| R676 | B | C | 12D |
| R681 | B | C | 6E |
| R682 | B | C | 6E |
| R683 | B | C | 20E |
| R684 | B | C | 20E |
| R685 | B | C | 14I |
| R686 | B | C | 10C |
| R687 | A | D | 12E |
| R688 | B | C | 17B |
| R689 | B | C | 18F |
| R690 | B | C | 18F |
| R691 | B | C | 18G |
| R692 | B | C | 17G |
| R693 | B | C | |
| R694 | B | C | |
| R695 | B | C | |
| R696 | B | C | |
| R697 | B | C | |
| R698 | B | C | |
| R699 | B | C | |
| R701 | B | C | |
| R704 | B | C | |
| R705 | B | C | |
| R706 | B | C | |
| R707 | B | C | |
| R708 | B | C | |
| R709 | B | C | |
| R710 | B | C | |
| R711 | B | C | |
| R712 | B | C | |
| R713 | B | C | |
| R714 | B | C | |
| R715 | B | C | |
| R716 | B | C | |
| R717 | B | C | |
| R718 | B | C | |
| R719 | B | C | |
| R720 | B | C | |
| R721 | B | C | |
| R722 | B | C | |
| R723 | B | C | 14A |
| R724 | B | C | 13A |
| R725 | B | C | 13A |
| R726 | B | C | 13A |
| R727 | B | C | 11C |
| R751 | B | C | 8C |
| R752 | B | C | 8C |
| R753 | B | C | 8C |
| R754 | B | C | 7C |
| R755 | B | C | 7C |
| R756 | B | C | 7D |
| R757 | B | C | 7D |
| R758 | B | C | 8D |
| R760 | B | C | 9C |
| R761 | B | C | 7D |
| R762 | B | C | 9C |
| R763 | B | C | 9C |
| R764 | B | C | 7E |
| R765 | B | C | 9C |
| R776 | B | C | 9E |
| R777 | B | C | 9D |
| R778 | B | C | 9D |
| R780 | B | C | 5B |
| R781 | B | C | 5B |
| R785 | B | C | 6B |
| R804 | A | D | 3M |
| R805 | A | D | 3M |
| R808 | A | D | 1M |
| R810 | A | D | 2L |
| R811 | A | D | 2L |
| R814 | A | D | 3M |
| R815 | A | D | 3M |
| R816 | A | D | 3M |
| R817 | A | D | 2L |
| R851 | A | D | 2C |
| R852 | A | D | 3G |
| R853 | A | D | 1B |
| R854 | A | D | 4J |
| R855 | A | D | 3J |
| R856 | A | D | 4J |
| R857 | A | D | 4K |
| R881 | B | C | 3F |
| R882 | A | D | 2G |
| R883 | B | C | 2C |
| R884 | A | D | 3D |
| R885 | A | D | 2D |
| R886 | B | C | 2D |
| R888 | B | C | 4F |
| R891 | A | D | 3D |
| R896 | B | C | 4G |
| R897 | B | C | 3F |
| R1001 | B | C | 21M |
| R1002 | B | C | 22M |
| R1003 | B | C | 22N |
| R1004 | B | C | 22M |
| R1005 | B | C | 22K |
| R1006 | B | C | 22K |
| R1007 | B | C | 21K |
| R1008 | B | C | 21J |
| R1009 | B | C | 21J |
| R1010 | B | C | 21N |
| R1011 | B | C | 21N |
| R1012 | B | C | 21N |
| R1021 | B | C | 21I |
| R1022 | B | C | 21J |
| R1023 | B | C | 20I |
| R1024 | B | C | 21I |
| R1025 | B | C | 20I |
| R1026 | B | C | 20I |
| R1027 | B | C | 20H |
| R1028 | B | C | 20I |
| R1029 | B | C | 19I |
| R1030 | B | C | 19I |
| R1031 | B | C | 20I |
| R1032 | B | C | 20H |
| R1033 | B | C | 21M |
| R1034 | B | C | 20M |
| R1041 | B | C | 21N |
| TEST POINT | | | |
| TP301 | A | D | 16M |
| TP401 | A | D | 5I |
| TP692 | A | D | 3C |
| OTHERS | | | |
| TU1001 | A | D | 21O |
| X301 | A | D | 16K |
| X501 | A | D | 20L |
| X601 | A | D | 16E |
| CF601 | A | D | 16D |
| CF751 | A | D | 7C |
| J201 | A | D | 12K |
| J202 | A | D | 4E |
| JA1 | A | D | 13P |
| JA2 | A | D | 14P |
| JA3 | A | D | 12P |
| JA4 | A | D | 15P |
| JA5 | A | D | 17P |
| JA6 | A | D | 18P |
| JA7 | A | D | 19P |
| K801 | A | D | 2L |
| LF802 | A | D | 4O |
| PC801 | A | D | 4L |
| PS601 | A | D | 10B |
| PS602 | A | D | 16B |
| SW1001 | A | D | 20P |
| T101 | A | D | 7L |
| T102 | A | D | 7L |
| T801 | A | D | 1K |
| T1001 | A | D | 20J |
| TH601 | A | D | 6E |
| TH602 | A | D | 20E |



## 4.12 MAIN CIRCUIT BOARD


AUDIO
PRIMARY
SECONDARY
JA3 OUT
JA1 AV1
JA2 AV2/CATL
JA4 OUT
JA5 IN
JA6 COMP/R.PAUSE/RAE
JA7 CABLE BOX CTL
IN/OUT
ICP-N15
CP1001
C.BOX
TUNER
A.LEV.ADJ
FH ADJ
TP301 FH MON
ONSCREEN
PRE/REC
PB10923 -01-02
MAIN PWB
CP401
ICP-15N
TP481 CTL.P
M/AL 12V
CP601
ICP-25N
ICP-N25
CP852
M12V/17V
SW5V
AL5.6V
SW12V
SERVO
SYS.CLK
TEST
SW.REG
SYSCON
VIDEO
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE
CP851
ICP-N20
AL5.6V/6V
AL5.6V
SW5V ADJ
TP692 GND
START SENSOR
END SENSOR
PS601 REEL SENSOR TAKE UP
PS602 REEL SENSOR SUPPLY
MAIN PWB ASS'Y
03
UL MARK
NEUTRAL
LIVE

## 4.13 VIDEO UNIT SCHEMATIC DIAGRAM

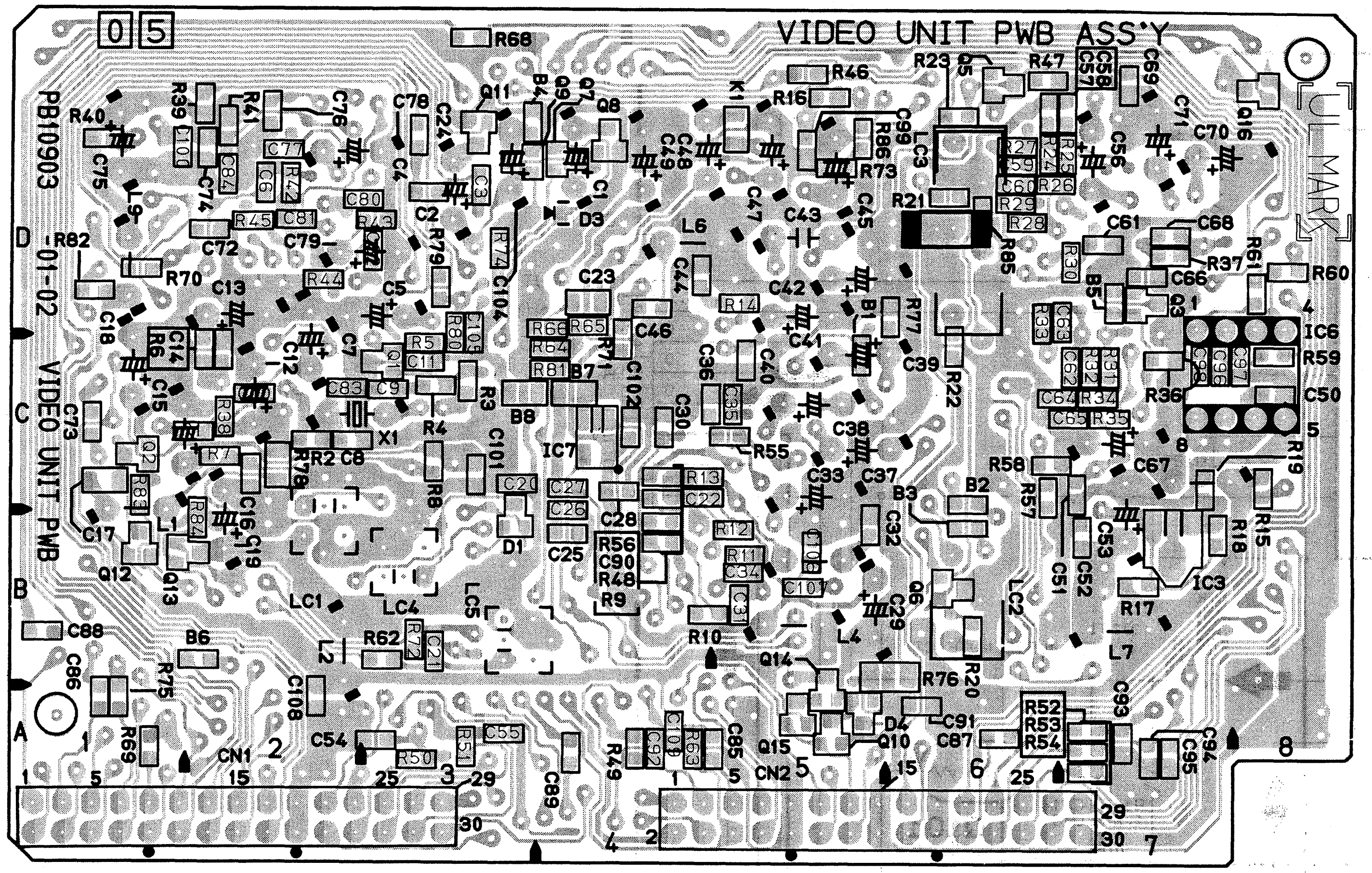

(Page 4-16) FROM/TO VIDEO CN201
CN1
1 LPF' D Y 3.5
2 REC C GAIN 3.0
3 BPF' D C 2.1
4 REC Y GAIN 1.0(0)
5 +6dB V 2.3
6 N.C
7 +6dB C 2.2
8 SUPER IMPOSE 0
9 +6dB Y 2.3
10 Y TO EDTV(S1/S2U/S3U) 2.5
11 N.C
12 * T TO EDTV(S55) 0
13 * COLOR KILLER 0
14 N.C
15 SEL' D C 0
16 N.C
17 SP/EP 4.4
18 Fsc 2.1
19 C GND 0
20 C GND 0
21 COL ROT 2.9
22 DOC PULSE 0
23 EX VIDEO 2.4
24 SSB CLK 0
25 SEL' D Y/V 2.5
26 SSB DATA 0
27 C.SYNC 0.5
28 D.SYNC 0.5
29 EE/PB 0(5.2)
30 APT/ROT 2.5
C86 0.01
C88 0.01
(Page 4-16) FROM/TO VIDEO CN202
CN2
1 PB COL 3.3
2 FM VCC 5.2
3 REC FM 3.4(4.3)
4 REC COL/CS LEV 2.1(2.7)
5 PB FM 1.9
6 N.C
7 DEEMP E 0(1.1)
8 W/D CHECK 2.4
9 FM GND 0
10 FM GND 0
11 DEEMP C 0(1.1)
12 C TO SEP 2.7
13 DET S(H) 0
14 Y/V TO SEPA 2.1(2.6)
15 Y GND 0
16 Y GND 0
17 SUB EMP CHECK 2.8
18 SEPA' D Y1 3.4
19 SW5V 5.3
20 SW5V 5.3
21 SEPA' D Y2/COMB' D C 3.2
22 SEPA' D C 3.1
23 V.PULSE 0
24 EVR DATA 5.0(0)
25 EVR CLK 0
26 EVR LD 0
27 M CE 0
28 M CLK 0
29 M DATA 0
30 AL5V 5.1
C87 0.01
SP/EP
REC/PB
SEL' D Y/V
EX VIDEO
Y/V TO SEGA
SEPA' D Y1
C.SYNC
APT
V OUT
BAND GAP
Y OUT
LPF' D Y
SUPER IMP
BPF' D C
C OUT
SEPA' D Y2/COMB' D C
SEPA' D C
C TO SEP
IC1 JCP0054
IIL LOGIC
IC2 M62353GP
IC3 NJM431U-XE
IC4 VC2076HP-XE
IC6 XLJ93LC56A
IC7 TC4S81F
Q1 2SA1576(QRS)
Q5 2SC4081(QRS)
Q6 2SA1576(QRS)
Q14 DTC144E
Q16 DTC144W
D2 DA204
LC1 PELN0537 LC VCO
LC2 PELN0945
X1 PEVB0549
SUB-EMPH LEV ADJ
W/D CLIP ADJ
DEVIATION ADJ
CARRIER ADJ
REC C GAIN
Y LEV ADJ
REC Y GAIN
FM Vcc
PB FM
DOC PULSE
WHITE/DARK CLIP
S DET
DEEMP EMITTER
DEEMP COLLECTOR
SW5V
REC FM
REC C GAIN
REC Y GAIN
Y TO SUB-EMP
EVR DATA
EVR CLK
EVR LD
05 VIDEO UNIT

NOTE: Mark ( * ) is not used.

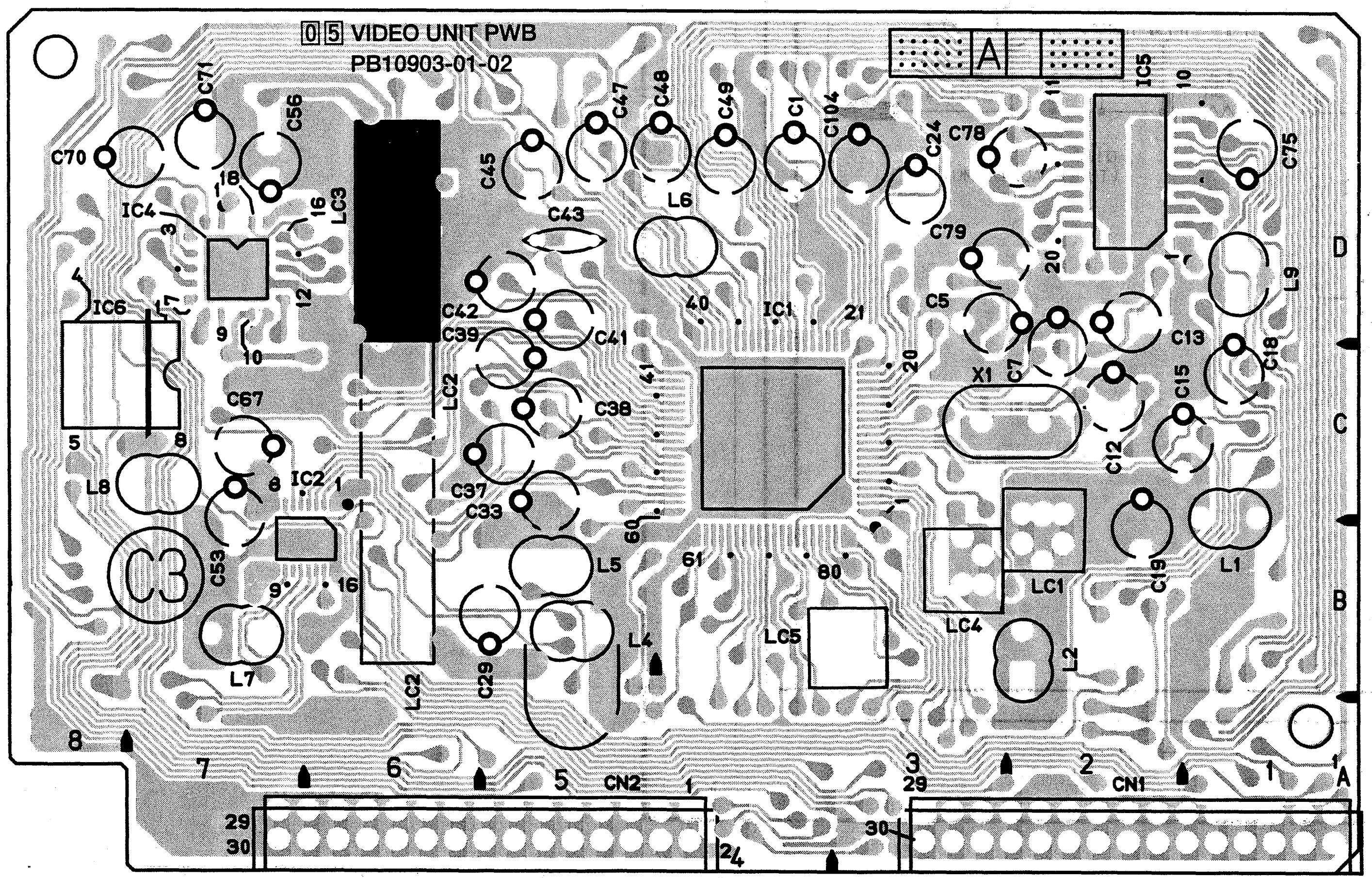
A
B
C
E
F
G
H

## 4.14 VIDEO UNIT CIRCUIT BOARD

### — FOIL SIDE —



### — COMPONENT SIDE —



<VIDEO UNIT PWB>

COMPONENT PARTS LOCATION GUIDE

| REF.NO. | LOCATION | | | REF.NO. | LOCATION | | | REF.NO. | LOCATION | | | REF.NO. | LOCATION | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAPACITOR | | | | C61 | B | C | 7D | IC6 | A | D | 7D | R34 | B | C | 7C |
| C1 | A | D | 4D | C62 | B | C | 7C | IC7 | B | C | 4C | R35 | B | C | 7C |
| C2 | B | C | 3D | C63 | B | C | 7D | COIL | | | | R36 | B | C | 7C |
| C3 | B | C | 3D | C64 | B | C | 6C | L1 | A | D | 1C | R37 | B | C | 7D |
| C4 | B | C | 3E | C65 | B | C | 7C | L2 | A | D | 2B | R38 | B | C | 2C |
| C5 | A | D | 3D | C66 | B | C | 7D | L4 | A | D | 5B | R39 | B | C | 2E |
| C6 | B | C | 2D | C67 | A | D | 7C | L5 | A | D | 5B | R40 | B | C | 1E |
| C7 | A | D | 2C | C68 | B | C | 7D | L6 | A | D | 5D | R41 | B | C | 2E |
| C8 | B | C | 2C | C69 | B | C | 7E | L7 | A | D | 7B | R42 | B | C | 2D |
| C9 | B | C | 3C | C70 | A | D | 7E | L8 | A | D | 7C | R43 | B | C | 3D |
| C10 | B | C | 2C | C71 | A | D | 7D | L9 | A | D | 1D | R44 | B | C | 2D |
| C11 | B | C | 3C | C72 | B | C | 2D | TRANSISTOR | | | | R45 | B | C | 2D |
| C12 | A | D | 2C | C73 | B | C | 1C | Q1 | B | C | 3C | R46 | B | C | 5E |
| C13 | A | D | 2D | C74 | B | C | 2E | Q2 | B | C | 1C | R47 | B | C | 6E |
| C14 | B | C | 2C | C75 | A | D | 1E | Q3 | B | C | 7D | R48 | B | C | 4B |
| C15 | A | D | 1C | C76 | B | C | 2E | Q5 | B | C | 6E | R49 | B | C | 4A |
| C16 | B | C | 2C | C77 | B | C | 2E | Q6 | B | C | 6B | R50 | B | C | 3A |
| C17 | B | C | 1C | C78 | A | D | 2E | Q7 | B | C | 4E | R51 | B | C | 3A |
| C18 | A | D | 1C | C79 | A | D | 2D | Q8 | B | C | 4E | R52 | B | C | 7A |
| C19 | A | D | 2B | C80 | B | C | 2D | Q9 | B | C | 3D | R53 | B | C | 7A |
| C20 | B | C | 3C | C81 | B | C | 2D | Q10 | B | C | 5A | R54 | B | C | 7A |
| C21 | B | C | 3B | C82 | B | C | 3D | Q11 | B | C | 3E | R55 | B | C | 5C |
| C22 | B | C | 4C | C83 | B | C | 2C | Q12 | B | C | 1B | R56 | B | C | 4C |
| C23 | B | C | 4D | C84 | B | C | 2D | Q13 | B | C | 2B | R57 | B | C | 6C |
| C24 | A | D | 3D | C85 | B | C | 5A | Q14 | B | C | 5A | R58 | B | C | 6C |
| C25 | B | C | 4B | C86 | B | C | 1A | Q15 | B | C | 5A | R59 | B | C | 8C |
| C26 | B | C | 4C | C87 | B | C | 6A | Q16 | B | C | 8E | R60 | B | C | 8D |
| C27 | B | C | 4C | C88 | B | C | 1B | RESISTOR | | | | R61 | B | C | 8D |
| C28 | B | C | 4C | C89 | B | C | 4A | R1 | B | C | 2C | R62 | B | C | 3B |
| C29 | A | D | 5B | C90 | B | C | 4C | R2 | B | C | 2C | R63 | B | C | 4A |
| C30 | B | C | 4C | C91 | B | C | 6A | R3 | B | C | 3C | R64 | B | C | 4C |
| C31 | B | C | 5B | C92 | B | C | 4A | R4 | B | C | 3C | R65 | B | C | 4D |
| C32 | B | C | 5B | C93 | B | C | 7A | R5 | B | C | 3C | R66 | B | C | 4D |
| C33 | A | D | 5C | C94 | B | C | 7A | R6 | B | C | 2C | R68 | B | C | 3E |
| C34 | B | C | 5B | C95 | B | C | 7A | R7 | B | C | 2C | R69 | B | C | 1A |
| C35 | B | C | 5C | C96 | B | C | 7C | R8 | B | C | 3C | R70 | B | C | 1D |
| C36 | B | C | 4C | C97 | B | C | 8C | R9 | B | C | 4B | R71 | B | C | 4C |
| C37 | A | D | 5C | C98 | B | C | 7C | R10 | B | C | 4B | R72 | B | C | 3B |
| C38 | A | D | 5C | C99 | B | C | 5E | R11 | B | C | 5B | R73 | B | C | 5D |
| C39 | A | D | 6C | C100 | B | C | 1E | R12 | B | C | 5B | R74 | B | C | 3D |
| C40 | B | C | 5C | C101 | B | C | 3C | R13 | B | C | 4C | R75 | B | C | 1A |
| C41 | A | D | 5D | C102 | B | C | 4C | R14 | B | C | 5D | R76 | B | C | 6B |
| C42 | A | D | 5D | C104 | A | D | 3D | R15 | B | C | 8C | R77 | B | C | 6D |
| C43 | A | D | 5D | C105 | B | C | 3D | R16 | B | C | 5E | R78 | B | C | 2C |
| C44 | B | C | 4D | C106 | B | C | 5B | R17 | B | C | 7B | R79 | B | C | 3D |
| C45 | A | D | 5D | C107 | B | C | 5B | R18 | B | C | 7B | R80 | B | C | 3D |
| C46 | B | C | 4D | C108 | B | C | 2A | R19 | B | C | 7C | R81 | B | C | 4C |
| C47 | A | D | 5D | C109 | B | C | 4A | R20 | B | C | 6B | R82 | B | C | 1D |
| C48 | A | D | 4D | CONNECTOR | | | | R21 | B | C | 6D | R83 | B | C | 1C |
| C49 | A | D | 4D | CN1 | A | D | 1A | R22 | B | C | 6C | R84 | B | C | 2B |
| C50 | B | C | 8C | CN2 | A | D | 4A | R23 | B | C | 6E | R85 | B | C | 6D |
| C51 | B | C | 7C | DIODE | | | | R24 | B | C | 6E | R86 | B | C | 5E |
| C52 | B | C | 7B | D1 | B | C | 3B | R25 | B | C | 7E | OTHERS | | | |
| C53 | A | D | 7B | D3 | B | C | 4D | R26 | B | C | 6D | X1 | A | D | 3C |
| C54 | B | C | 3A | D4 | B | C | 5A | R27 | B | C | 6E | K1 | B | C | 5E |
| C55 | B | C | 3A | IC | | | | R28 | B | C | 6D | LC1 | A | D | 2C |
| C56 | A | D | 7E | IC1 | A | C | 4C | R29 | B | C | 6D | LC2 | A | D | 6B |
| C57 | B | C | 6E | IC2 | A | C | 6B | R30 | B | C | 7D | LC3 | A | D | 6E |
| C58 | B | C | 7E | IC3 | B | C | 7B | R31 | B | C | 7C | LC4 | A | D | 3B |
| C59 | B | C | 6D | IC4 | A | C | 7D | R32 | B | C | 7C | LC5 | A | D | 3B |
| C60 | B | C | 6D | IC5 | A | C | 2D | R33 | B | C | 6D | | | | |

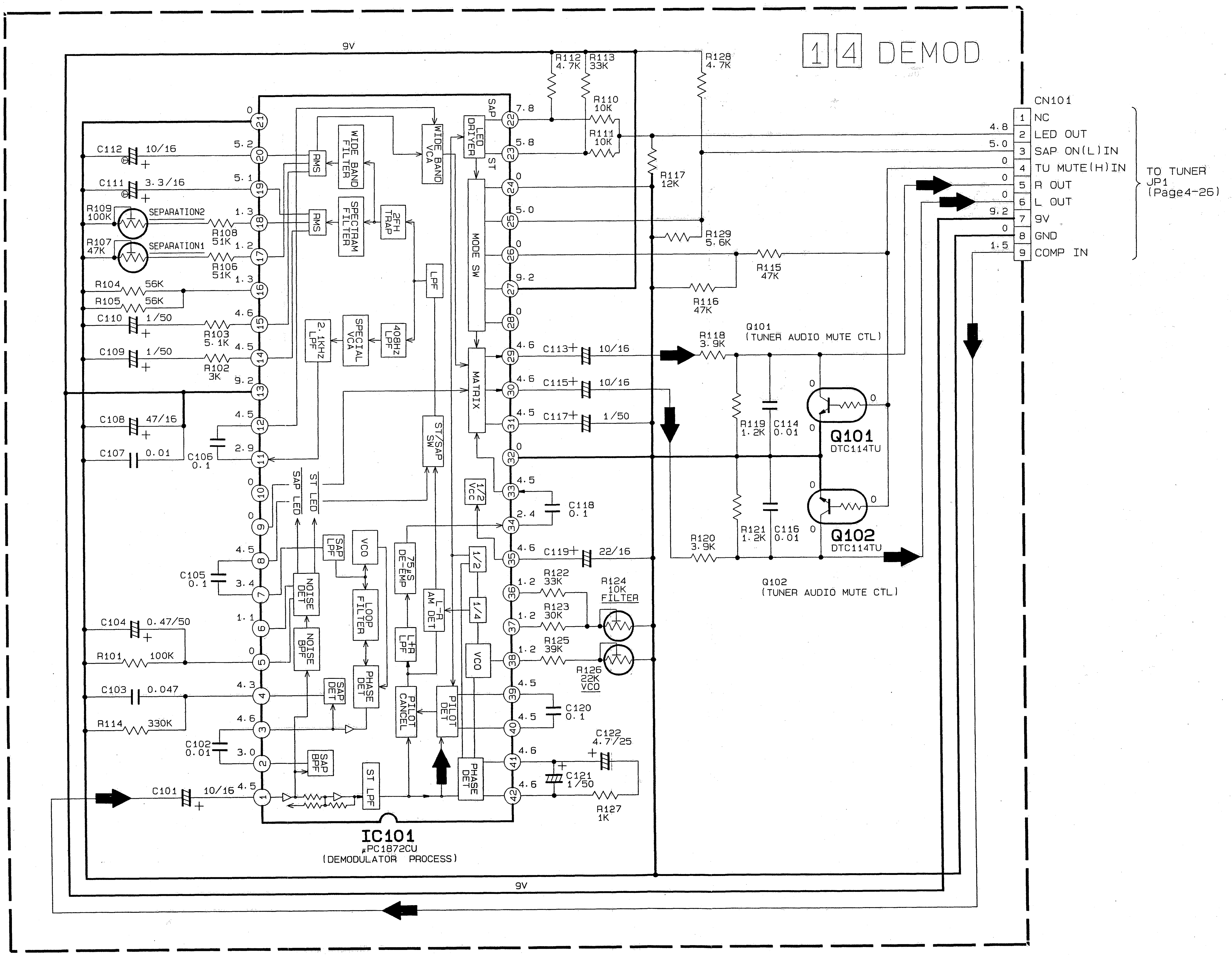
| REF.NO | LOCATION | | |
|---|---|---|---|
| IC | | | |
| IC101 | B | C | 6 A |

Category : IC

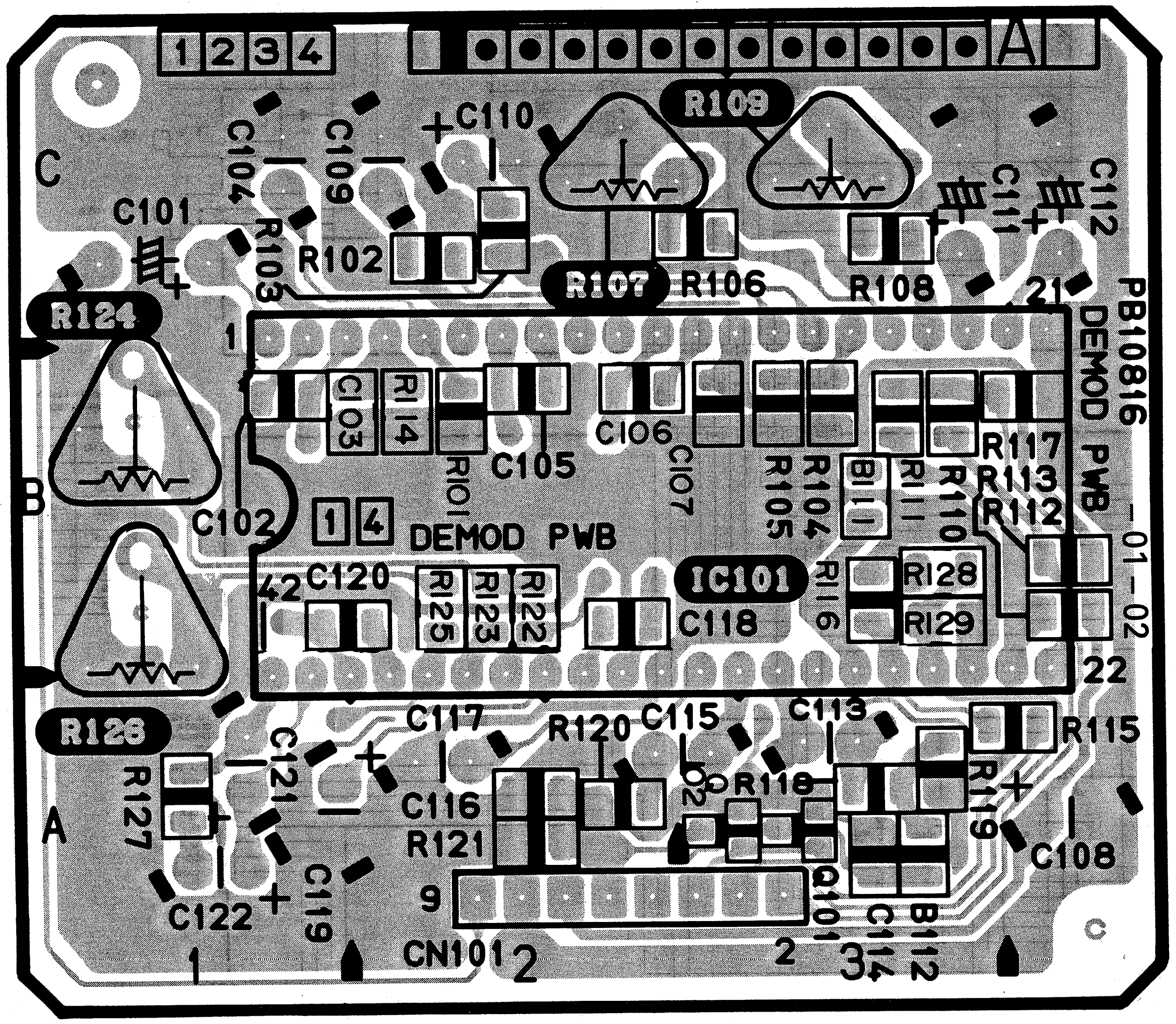
B : Foil side
(A : Component side)
C : Chip component
(D : Discrete component)

Horizontal "A" zone
Vertical "6" zone

## 4.15 DEMODULATOR SCHEMATIC DIAGRAM


14 DEMOD
9V
IC101
μPC1872CU
(DEMODULATOR PROCESS)
WIDE BAND FILTER
WIDE BAND VCA
SPECTRAM FILTER
RMS
2FH TRAP
LED DRIYER
SAP
ST
MODE SW
LPF
MATRIX
SPECIAL VCA
2.1KHz LPF
408HZ LPF
ST/SAP SW
ST LED
SAP LED
1/2 Vcc
VCO
SAP LPF
NOISE DET
NOISE BPF
LOOP FILTER
PHASE DET
SAP DET
SAP BPF
75μS DE-EMP
L-R AM DET
L+R LPF
PILOT CANCEL
PILOT DET
ST LPF
1/2
1/4
C112 10/16
C111 3.3/16
R109 100K SEPARATION2
R107 47K SEPARATION1
R108 51K
R106 51K
R104 56K
R105 56K
C110 1/50
R103 5.1K
C109 1/50
R102 3K
C108 47/16
C107 0.01
C106 0.1
C105 0.1
C104 0.47/50
R101 100K
C103 0.047
R114 330K
C102 0.01
C101 10/16
R112 4.7K
R113 33K
R110 10K
R111 10K
R128 4.7K
R117 12K
R129 5.6K
R115 47K
R116 47K
C113 10/16
C115 10/16
C117 1/50
C118 0.1
C119 22/16
R122 33K
R124 10K FILTER
R123 30K
R125 39K
R126 22K VCO
C120 0.1
C122 4.7/25
C121 1/50
R127 1K
R118 3.9K
Q101 (TUNER AUDIO MUTE CTL)
R119 1.2K
C114 0.01
Q101 DTC114TU
R120 3.9K
R121 1.2K
C116 0.01
Q102 DTC114TU
Q102 (TUNER AUDIO MUTE CTL)
CN101
1 NC
2 LED OUT
3 SAP ON(L)IN
4 TU MUTE(H)IN
5 R OUT
6 L OUT
7 9V
8 GND
9 COMP IN
4.8
5.0
0
0
0
0
9.2
0
1.5
TO TUNER JP1 (Page4-26)
A
B
C
D
E
F
G
H
1
2
3
4
5
6

## 4.16 DEMODULATOR CIRCUIT BOARD


1 2 3 4
A
C
B
A
C104
C109
C110
R109
C111
C112
C101
R103
R102
R107
R106
R108
21
R124
1
PB10816
DEMOD PWB
C103
R114
R101
C105
C106
C107
R105
R104
B111
R111
R110
R117
R113
R112
C102
1 4
DEMOD PWB
-01-02
42
C120
R125
R123
R122
IC101
R116
R128
R129
C118
22
R126
C117
R120
C115
C113
R115
R127
C121
C116
R121
Q102
R118
R119
C108
C122
C119
9
CN101
1
2
2
Q101
C114
3
B112

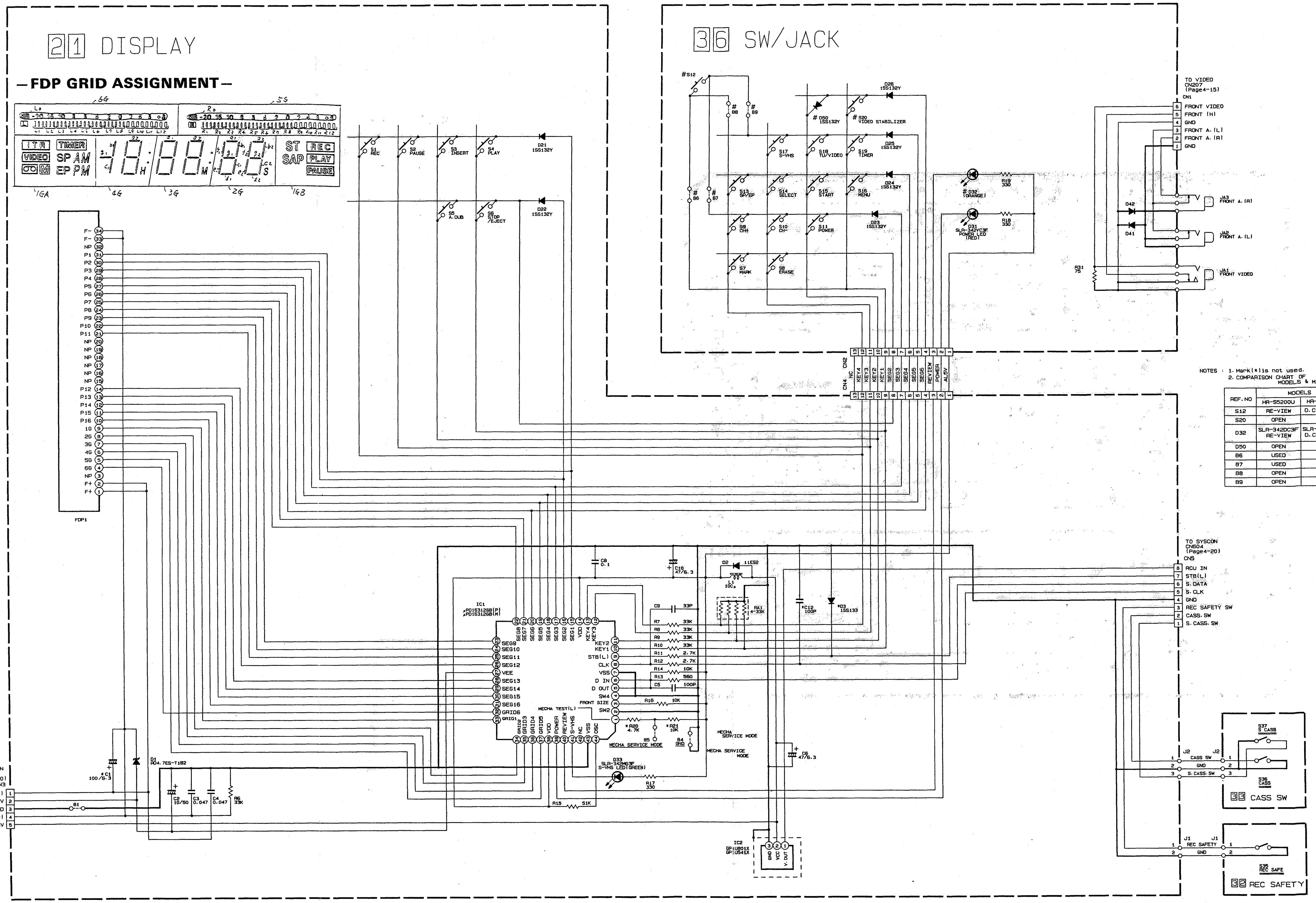
LEADLESS COMPONENT
PARTS LOCATION GUIDE

| REF. No. | LOCATION |
|---|---|
| TRANSISTOR | |
| Q101 | 3A |
| Q102 | 3A |
| RESISTOR | |
| R101 | 2B |
| R102 | 2C |
| R103 | 2C |
| R104 | 3B |
| R105 | 3B |
| R106 | 3C |
| R108 | 3C |
| R110 | 3B |
| R111 | 3B |
| R112 | 4B |
| R113 | 4B |
| R114 | 2B |
| R115 | 4A |
| R116 | 3B |
| R117 | 4B |
| R118 | 3A |
| R119 | 3A |
| R120 | 2A |
| R121 | 2A |
| R122 | 2B |
| R123 | 2B |
| R125 | 2B |
| R127 | 1A |
| R128 | 3B |
| R129 | 3B |
| CAPACITOR | |
| C102 | 1B |
| C103 | 1B |
| C105 | 2B |
| C106 | 2B |
| C107 | 3B |
| C114 | 3A |
| C116 | 2A |
| C118 | 2B |
| C120 | 1B |

MAIN COMPONENT
LOCATION GUIDE

| REF. No. | LOCATION |
|---|---|
| IC | |
| IC101 | 3B |
| TRANSISTOR | |
| Q101 | 3A |
| Q102 | 3A |
| ADJUSTMENT | |
| R107 | 2C |
| R109 | 3C |
| R124 | 1B |
| R126 | 1B |
| CONNECTOR | |
| CN101 | 2A |

## 4.17 DISPLAY, SW/JACK, SAFETY AND CASSETTE SW SCHEMATIC DIAGRAMS

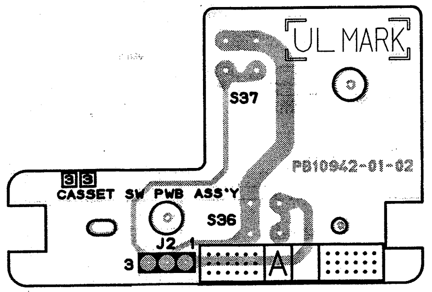

21 DISPLAY
– FDP GRID ASSIGNMENT –
1G A
4G
3G
2G
1G B
6G
5G
ITR
TIMER
VIDEO
SP AM
EP PM
ST
SAP
REC
PLAY
PAUSE
FDP1
F-
NP
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
P12
P13
P14
P15
P16
1G
2G
3G
4G
5G
6G
F+
S1 REC
S2 PAUSE
S3 INSERT
S4 PLAY
S5 A.DUB
S6 STOP /EJECT
D21 1SS132Y
D22 1SS132Y
IC1 μPD16312GB(P) μPD16312GB(M)
SEG8
SEG7
SEG6
SEG5
SEG4
SEG3
SEG2
SEG1
VDD
KEY4
KEY3
KEY2
KEY1
STB(L)
CLK
VSS
D IN
D OUT
SW4
FRONT SIZE
SW2
MECHA TEST(L)
SEG9
SEG10
SEG11
SEG12
VEE
SEG13
SEG14
SEG15
SEG16
GRID6
GRID1
GRID2
GRID3
GRID4
GRID5
POWER
REVIEW
S-VHS
NC
OSC
C8 0.1
C10 47/6.3
D2 11ES2
L1 100μ
RA1 4-33K
*C12 100P
*D3 1SS133
C9 33P
R7 33K
R8 33K
R9 33K
R10 33K
R11 2.7K
R12 2.7K
R14 10K
R13 560
C5 100P
R16 10K
*R20 4.7K
*R21 10K
B5
B4 GND
MECHA SERVICE MODE
D33 SLR-342MG3F S-VHS LED(GREEN)
R17 330
R15 51K
C6 47/6.3
IC2 GP1U801X GP1U541X
GND
VCC
V. OUT
TO SYSCON CN605 (Page4-20)
CN3
DC3.5V(+)
-28V
GND
DC3.5V(-)
AL5V
B1
*C1 100/6.3
D1 RD4.7ES-T1B2
C2 10/50
C3 0.047
C4 0.047
R6 33K
36 SW/JACK
#S12
#B8
#B9
#B6
#B7
#D50 1SS132Y
#S20 VIDEO STABILIZER
D26 1SS132Y
S17 S-VHS
S18 TU/VIDEO
S19 TIMER
D25 1SS132Y
S13 SP/EP
S14 SELECT
S15 START
S16 MENU
D24 1SS132Y
S9 CH+
S10 CH-
S11 POWER
D23 1SS132Y
S7 MARK
S8 ERASE
#D32 (ORANGE)
R19 330
D31 SLR-342VC3F POWER LED (RED)
R18 330
CN2
CN4
NC
KEY4
KEY3
KEY2
KEY1
SEG2
SEG3
SEG4
SEG5
SEG6
REVIEW
POWER
AL5V
TO VIDEO CN207 (Page4-15)
CN1
FRONT VIDEO
FRONT (H)
GND
FRONT A.(L)
FRONT A.(R)
D42
D41
R31 75
JA3 FRONT A.(R)
JA2 FRONT A.(L)
JA1 FRONT VIDEO
TO SYSCON CN604 (Page4-20)
CN5
RCU IN
STB(L)
S.DATA
S.CLK
REC SAFETY SW
CASS.SW
S.CASS.SW
J2
CASS SW
S.CASS.SW
S37 S CASS
S36 CASS
33 CASS SW
J1
REC SAFETY
S35 REC SAFE
32 REC SAFETY
6
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTES : 1. Mark(*)is not used.
2. COMPARISON CHART OF MODELS & MARKS(#)

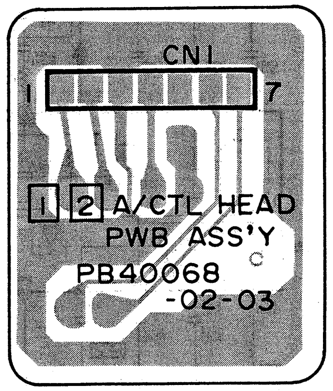
| REF.NO | MODELS | |
|---|---|---|
| | HR-S5200U | HR-S7200U |
| S12 | RE-VIEW | D.CONTRAST |
| S20 | OPEN | USED |
| D32 | SLR-342DC3F<br>RE-VIEW | SLR-342MG3F<br>D.CONTRAST |
| D50 | OPEN | USED |
| B6 | USED | OPEN |
| B7 | USED | OPEN |
| B8 | OPEN | USED |
| B9 | OPEN | USED |

# 4.18 DISPLAY, SW/JACK, REC SAFETY, CASSETTE SW AND A/C HEAD CIRCUIT BOARDS

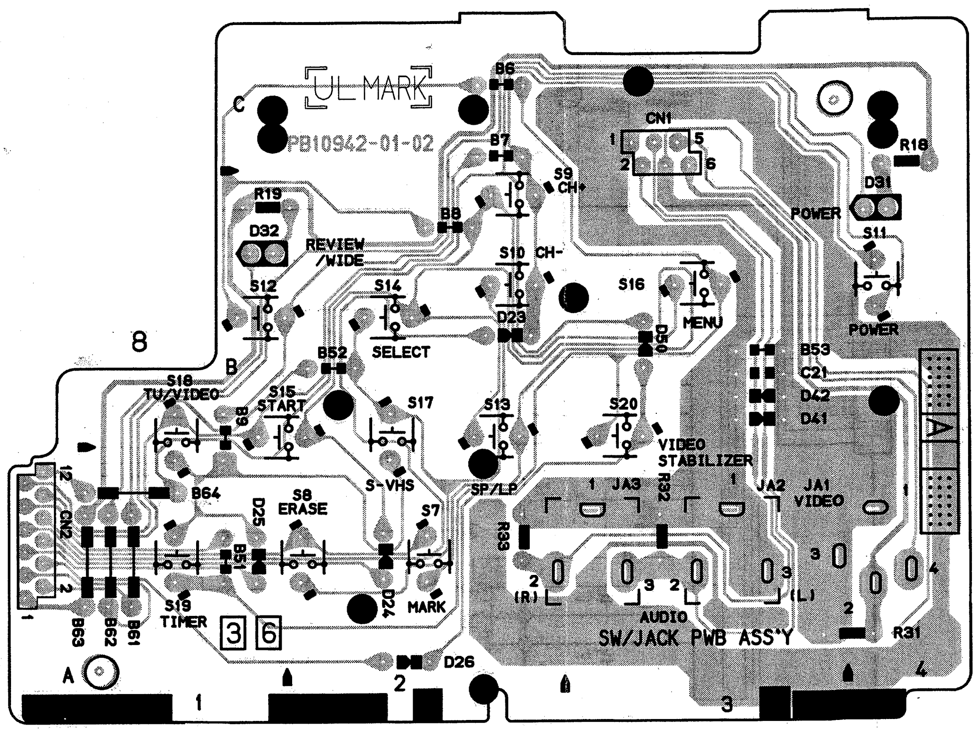
## — CASSETTE SW —


UL MARK
S37
PB10942-01-02
3 3
CASSET SW PWB ASS'Y
S36
J2
3
A

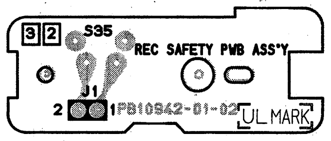
## — A/C HEAD —


CN1
1
7
1 2 A/CTL HEAD
PWB ASS'Y
PB40068
-02-03

## — SW/JACK —


UL MARK
PB10942-01-02
C
B
A
CN1
R18
D31
POWER
S11
POWER
R19
D32
REVIEW /WIDE
S12
S14
SELECT
S9 CH+
S10 CH-
S16
MENU
D23
D50
B53
C21
D42
D41
B52
S18 TU/VIDEO
S15 START
S17
S13
S20
VIDEO STABILIZER
S-VHS
SP/LP
JA3
JA2
JA1 VIDEO
B64
S8 ERASE
S7
D25
B51
D24
MARK
S19 TIMER
3 6
CN2
B63 B62 B61
R32
R33
AUDIO
SW/JACK PWB ASS'Y
R31
D26
8
1
2
3
4

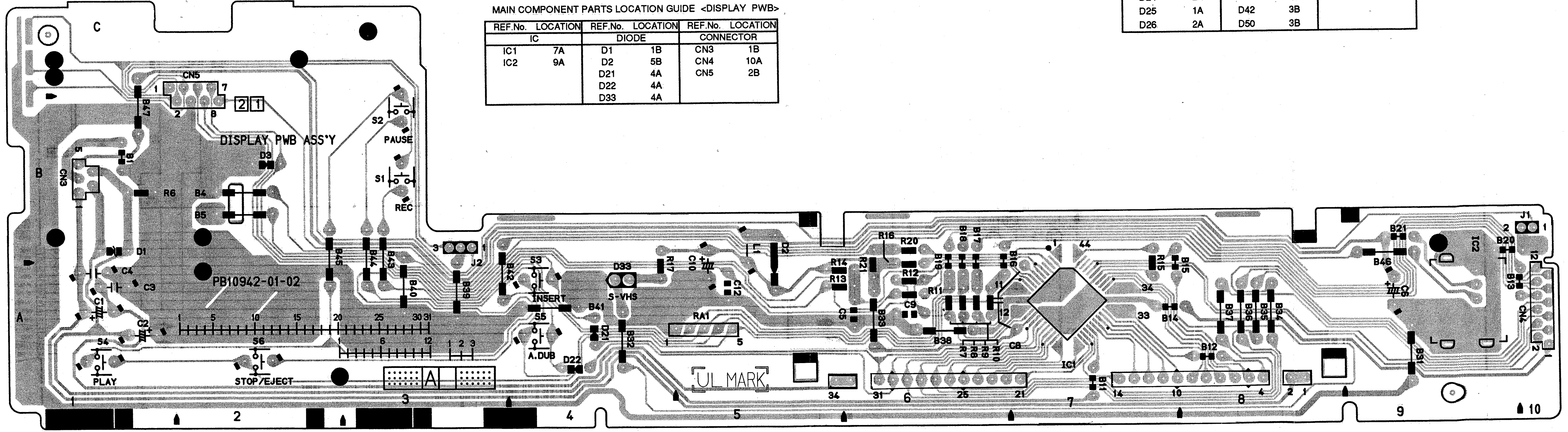
## —REC SAFETY —


3 2
S35
REC SAFETY PWB ASS'Y
J1
2
1
PB10942-01-02
UL MARK

MAIN COMPONENT PARTS LOCATION GUIDE <SWITCH/JACK PWB>

| REF.No. | LOCATION | REF.No. | LOCATION | REF.No. | LOCATION |
|---|---|---|---|---|---|
| DIODE | | | | CONNECTOR | |
| D23 | 2B | D31 | 4B | CN1 | 3C |
| D24 | 2A | D32 | 1B | CN2 | 1A |
| D25 | 1A | D41 | 3B | | |
| D26 | 2A | D42 | 3B | | |
| | | D50 | 3B | | |

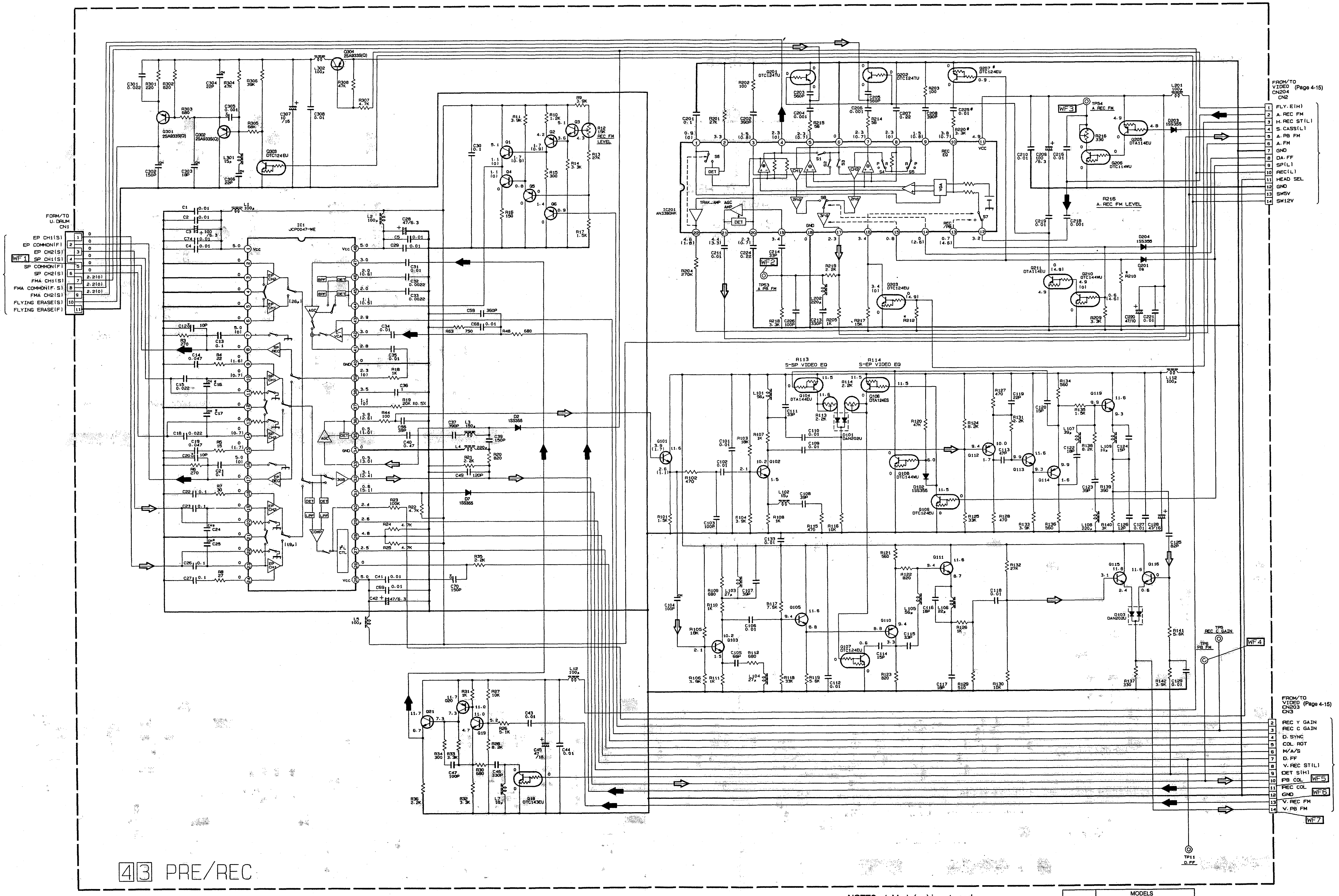
## — DISPLAY —


C
B
A
CN5
1
7
2
8
2 1
B47
DISPLAY PWB ASS'Y
D3
S2
PAUSE
S1
REC
CN3
R6
B4
B5
D1
C4
C3
C1
C2
PB10942-01-02
S4
PLAY
S6
STOP/EJECT
A
J2
S3
INSERT
S5
A.DUB
D33
S-VHS
B41
D21
D22
B32
R17
C10
RA1
UL MARK
L1
R16
R20
R14
R13
R21
R12
R11
C9
B38
C8
IC1
44
34
33
B14
B12
B11
B31
B21
B20
B46
IC2
CN4
J1
1
2
3
4
5
6
7
8
9
10

MAIN COMPONENT PARTS LOCATION GUIDE <DISPLAY PWB>

| REF.No. | LOCATION | REF.No. | LOCATION | REF.No. | LOCATION |
|---|---|---|---|---|---|
| IC | | DIODE | | CONNECTOR | |
| IC1 | 7A | D1 | 1B | CN3 | 1B |
| IC2 | 9A | D2 | 5B | CN4 | 10A |
| | | D21 | 4A | CN5 | 2B |
| | | D22 | 4A | | |
| | | D33 | 4A | | |

## 4.19 PRE/REC SCHEMATIC DIAGRAM

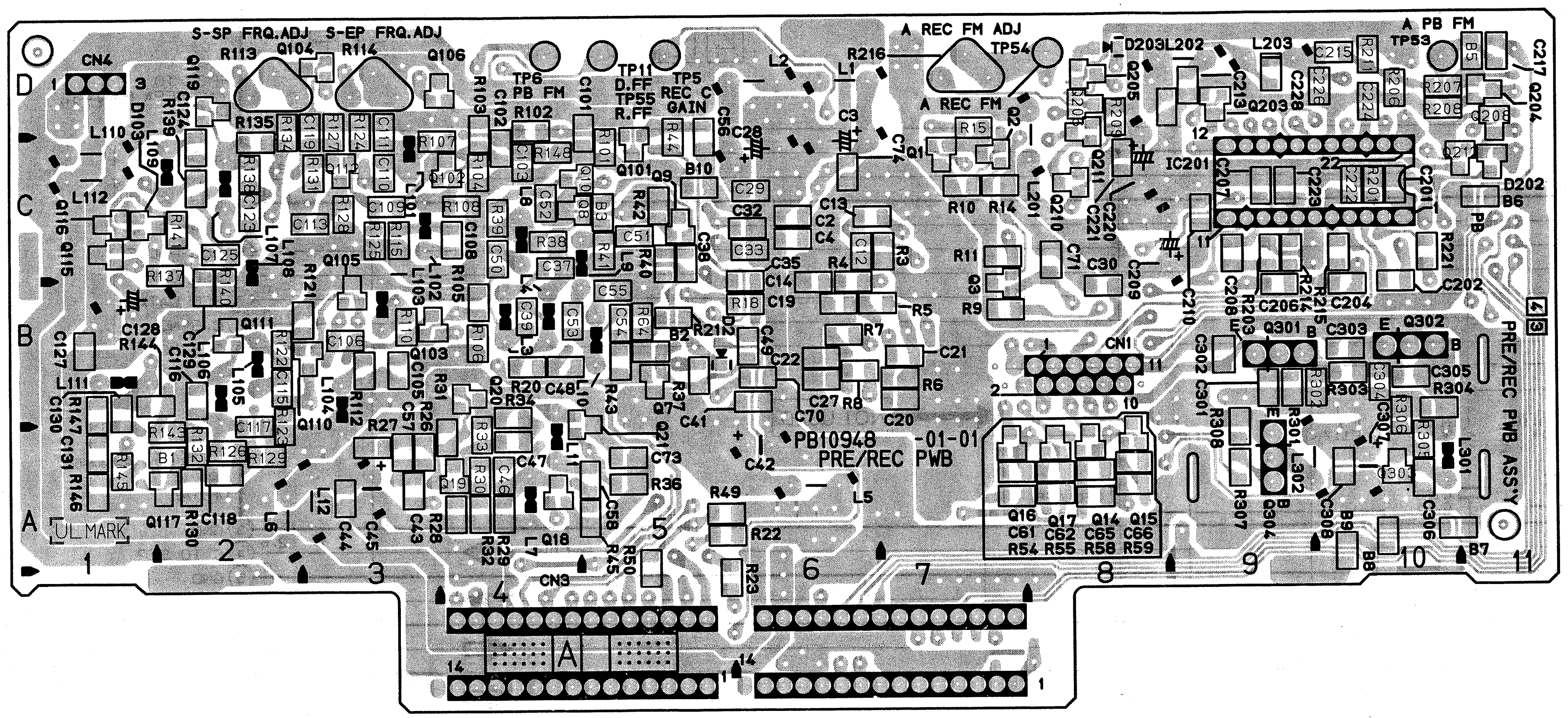

FORM/TO U.DRUM CN1
EP CH1(S)
EP COMMON(F)
EP CH2(S)
SP CH1(S)
SP COMMON(F)
SP CH2(S)
FMA CH1(S)
FMA COMMON(F.S)
FMA CH2(S)
FLYING ERASE(S)
FLYING ERASE(F)
WF1
IC1 JCP0047-WE
IC201 AN3380NK
FROM/TO VIDEO (Page 4-15) CN204 CN2
1 FLY.E(H)
2 A.REC FM
3 H.REC ST(L)
4 S.CASS(L)
5 A.PB FM
6 A.FM
7 GND
8 DA.FF
9 SP(L)
10 REC(L)
11 HEAD SEL
12 GND
13 SW5V
14 SW12V
WF2
WF3
TP54 A.REC FM
TP53 A.PB FM
R216 A.REC FM LEVEL
R12 15K REC FM LEVEL
R113 S-SP VIDEO EQ
R114 S-EP VIDEO EQ
TP5 REC C GAIN
TP6 PB FM
WF4
FROM/TO VIDEO (Page 4-15) CN203 CN3
2 REC Y GAIN
3 REC C GAIN
4 D.SYNC
5 COL ROT
6 M/A/S
7 D.FF
8 V.REC ST(L)
9 DET S(H)
10 PB COL
11 REC COL
12 GND
13 V.REC FM
14 V.PB FM
WF5
WF6
WF7
TP11 D.FF
4 3 PRE/REC

NOTES: 1. Mark ( * ) is not used.
2. Comparison chart of models & marks ( # ).

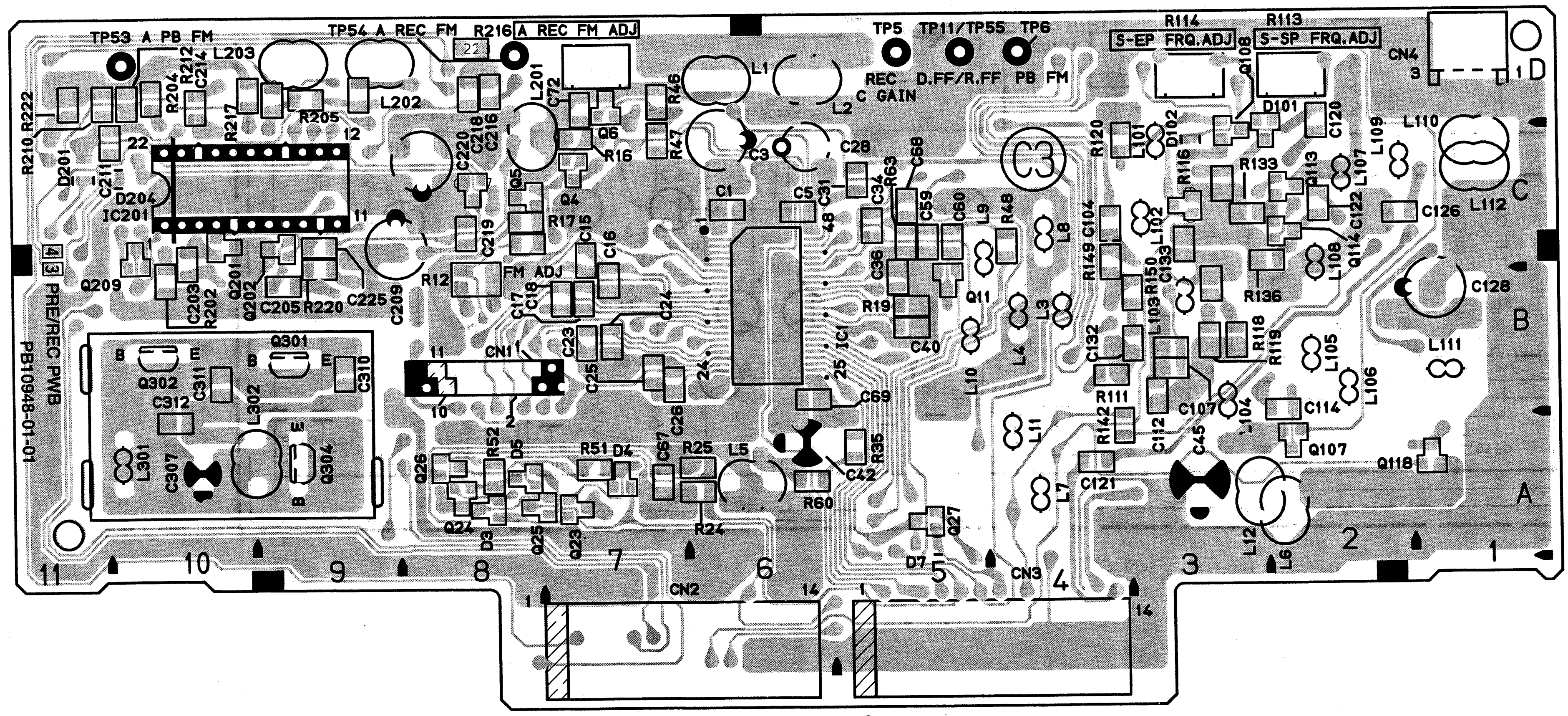
| REF. No. | MODELS | |
|---|---|---|
| | HR-S5200U | HR-S7200U |
| Q207 | OPEN | USED |
| R220 | OPEN | USED |
| C225 | OPEN | USED |

## 4.20 PRE/REC CIRCUIT BOARD

### — FOIL SIDE —



### — COMPONENT SIDE —



COMPONENT PARTS LOCATION GUIDE <PRE/REC PWB>

| REF.NO | LOCATION | | |
|---|---|---|---|
| CAPACITOR | | | |
| C1 | A | C | 6C |
| C2 | B | C | 6C |
| C3 | A | D | 6D |
| C4 | B | C | 6C |
| C5 | A | C | 6C |
| C12 | B | C | 6C |
| C13 | B | C | 6C |
| C14 | B | C | 6C |
| C15 | A | C | 7C |
| C16 | A | C | 7C |
| C17 | A | C | 7C |
| C18 | A | C | 7C |
| C19 | B | C | 6B |
| C20 | B | C | 7B |
| C21 | B | C | 7B |
| C22 | B | C | 6B |
| C23 | A | C | 7B |
| C24 | A | C | 7B |
| C25 | A | C | 7B |
| C26 | A | C | 7B |
| C27 | B | C | 6B |
| C28 | A | D | 6D |
| C29 | B | C | 6C |
| C30 | B | C | 8C |
| C31 | A | C | 5C |
| C32 | B | C | 6C |
| C33 | B | C | 6C |
| C34 | A | C | 5C |
| C35 | B | C | 6C |
| C36 | A | C | 5C |
| C37 | B | C | 4C |
| C38 | B | C | 5C |
| C39 | B | C | 4B |
| C40 | A | C | 5B |
| C41 | B | C | 6B |
| C42 | A | D | 6B |
| C43 | B | C | 3A |
| C44 | B | C | 3A |
| C45 | A | D | 3A |
| C46 | B | C | 4A |
| C47 | B | C | 4B |
| C48 | B | C | 4B |
| C49 | B | C | 6B |
| C50 | B | C | 4C |
| C51 | B | C | 5C |
| C52 | B | C | 4C |
| C53 | B | C | 4B |
| C54 | B | C | 5B |
| C55 | B | C | 5C |
| C56 | B | C | 5D |
| C57 | B | C | 3A |
| C58 | B | C | 5A |
| C59 | A | C | 5C |
| C60 | A | C | 5C |
| C61 | B | C | 7A |
| C62 | B | C | 8A |
| C65 | B | C | 8A |
| C66 | B | C | 8A |
| C67 | A | C | 7A |
| C68 | A | C | 5C |
| C69 | A | C | 6B |
| C70 | B | C | 6B |
| C71 | B | C | 8C |
| C72 | A | C | 7D |
| C73 | B | C | 5A |
| C74 | B | C | 6C |
| C101 | B | C | 4D |
| C102 | B | C | 4D |
| C103 | B | C | 4C |
| C104 | A | C | 4C |
| C105 | B | C | 3B |
| C106 | B | C | 3B |
| C107 | A | C | 3B |
| C108 | B | C | 4C |
| C109 | B | C | 3C |
| C110 | B | C | 3C |
| C111 | B | C | 3D |
| C112 | A | C | 3B |
| C113 | B | C | 3C |
| C114 | A | C | 2B |
| C115 | B | C | 2B |
| C116 | B | C | 2B |
| C117 | B | C | 2B |
| C118 | B | C | 2A |
| C119 | B | C | 3D |
| C120 | A | C | 2D |
| C121 | A | C | 4A |
| C122 | A | C | 2C |
| C123 | B | C | 2C |
| C124 | B | C | 2D |
| C125 | B | C | 2C |
| C126 | A | C | 2C |
| C127 | B | C | 1B |
| C128 | A | D | 1C |
| C129 | B | C | 2C |
| C130 | B | C | 1B |
| C131 | B | C | 1A |
| C132 | A | C | 3B |
| C133 | A | C | 3C |
| C201 | B | C | 10C |
| C202 | B | C | 10C |
| C203 | A | C | 10C |
| C204 | B | C | 10C |
| C205 | A | C | 9C |
| C206 | B | C | 9C |
| C207 | B | C | 9C |
| C208 | B | C | 9C |
| C209 | A | D | 9C |
| C210 | B | C | 9C |
| C211 | A | C | 10D |
| C213 | B | C | 9D |
| C214 | A | C | 10D |
| C215 | B | C | 10D |
| C216 | A | C | 8D |
| C217 | B | C | 11D |
| C218 | A | C | 8D |
| C219 | A | C | 8C |
| C220 | A | D | 8D |
| C221 | B | C | 8C |
| C222 | B | C | 10C |
| C223 | B | C | 9C |
| C224 | B | C | 10D |
| C225 | A | C | 9C |
| C226 | B | C | 10D |
| C227 | A | C | 9D |
| C228 | B | C | 9D |
| C301 | B | C | 9B |
| C302 | B | C | 9B |
| C303 | B | C | 10B |
| C304 | B | C | 10B |
| C305 | B | C | 10B |
| C306 | B | C | 10A |
| C307 | A | D | 10A |
| C308 | B | C | 10A |
| C310 | A | C | 9B |
| C311 | A | C | 10B |
| C312 | A | C | 10B |
| CONNECTOR | | | |
| CN1 | A | D | 7B |
| CN2 | A | D | 6A |
| CN3 | A | D | 6A |
| CN4 | A | D | 1D |
| DIODE | | | |
| D2 | B | C | 5B |
| D3 | A | C | 8A |
| D4 | A | C | 7A |
| D5 | A | C | 8A |
| D7 | A | C | 5A |
| D101 | A | C | 3D |
| D102 | A | C | 3D |
| D103 | B | C | 1C |
| D201 | A | C | 11C |
| D202 | B | C | 11C |
| D203 | B | C | 8D |
| D204 | A | C | 10C |
| IC | | | |
| IC1 | A | C | 6B |
| IC201 | A | D | 10C |
| COIL | | | |
| L1 | A | D | 6D |
| L2 | A | D | 6D |
| L3 | A | D | 4B |
| L4 | A | D | 4B |
| L5 | A | D | 6A |
| L6 | A | D | 2A |
| L7 | A | D | 4A |
| L8 | A | D | 4C |
| L9 | A | D | 4C |
| L10 | A | D | 5B |
| L11 | A | D | 4A |
| L12 | A | D | 3A |
| L101 | A | D | 3C |
| L102 | A | D | 3C |
| L103 | A | D | 3B |
| L104 | A | D | 3B |
| L105 | A | D | 2B |
| L106 | A | D | 2B |
| L107 | A | D | 2C |
| L108 | A | D | 2C |
| L109 | A | D | 2C |
| L110 | A | D | 1D |
| L111 | A | D | 1B |
| L112 | A | D | 1C |
| L201 | A | D | 8C |
| L202 | A | D | 9D |
| L203 | A | D | 9D |
| L301 | A | D | 10A |
| L302 | A | D | 10A |
| TRANSISTOR | | | |
| Q1 | B | C | 7D |
| Q2 | B | C | 7D |
| Q3 | B | C | 7C |
| Q4 | A | C | 7C |
| Q5 | A | C | 8C |
| Q6 | A | C | 7D |
| Q7 | B | C | 5B |
| Q8 | B | C | 4C |
| Q9 | B | C | 5C |
| Q10 | B | C | 4C |
| Q11 | A | C | 5C |
| Q14 | B | C | 8B |
| Q15 | B | C | 8B |
| Q16 | B | C | 7B |
| Q17 | B | C | 8B |
| Q18 | B | C | 4A |
| Q19 | B | C | 4A |
| Q20 | B | C | 4B |
| Q21 | B | C | 4B |
| Q23 | A | C | 7A |
| Q24 | A | C | 8A |
| Q25 | A | C | 8A |
| Q26 | A | C | 8A |
| Q27 | A | C | 5A |
| Q101 | B | C | 5D |
| Q102 | B | C | 4C |
| Q103 | B | C | 3B |
| Q104 | B | C | 3D |
| Q105 | B | C | 3C |
| Q106 | B | C | 3D |
| Q107 | A | C | 2A |
| Q108 | A | C | 3D |
| Q109 | A | C | 3C |
| Q110 | B | C | 3B |
| Q111 | B | C | 2B |
| Q112 | B | C | 3C |
| Q113 | A | C | 2C |
| Q114 | A | C | 2C |
| Q115 | B | C | 1C |
| Q116 | B | C | 1C |
| Q117 | B | C | 2A |
| Q118 | A | C | 1A |
| Q119 | B | C | 2D |
| Q201 | A | C | 10C |
| Q202 | A | C | 9C |
| Q203 | B | C | 9D |
| Q204 | B | C | 11D |
| Q205 | B | C | 8D |
| Q206 | B | C | 8D |
| Q207 | A | C | 8C |
| Q208 | B | C | 11D |
| Q209 | A | C | 10C |
| Q210 | B | C | 8C |
| Q211 | B | C | 8D |
| Q212 | B | C | 11C |
| Q301 | A | D | 9B |
| Q302 | A | D | 10B |
| Q303 | B | C | 10A |
| Q304 | A | D | 9B |
| RESISTOR | | | |
| R3 | B | C | 7C |
| R4 | B | C | 6C |
| R5 | B | C | 7B |
| R6 | B | C | 7B |
| R7 | B | C | 6B |
| R8 | B | C | 6B |
| R9 | B | C | 7B |
| R10 | B | C | 7C |
| R11 | B | C | 7C |
| R12 | A | C | 8C |
| R13 | A | C | 8C |
| R14 | B | C | 7C |
| R15 | B | C | 7D |
| R16 | A | C | 7D |
| R17 | A | C | 8C |
| R18 | B | C | 6B |
| R19 | A | C | 5B |
| R20 | B | C | 4B |
| R21 | B | C | 5B |
| R22 | B | C | 5A |
| R23 | B | C | 5A |
| R24 | A | C | 6A |
| R25 | A | C | 6A |
| R26 | B | C | 3A |
| R27 | B | C | 3B |
| R28 | B | C | 4A |
| R29 | B | C | 4A |
| R30 | B | C | 4A |
| R31 | B | C | 4B |
| R32 | B | C | 4A |
| R33 | B | C | 4B |
| R34 | B | C | 4B |
| R35 | A | C | 5A |
| R36 | B | C | 5A |
| R37 | B | C | 5B |
| R38 | B | C | 4C |
| R39 | B | C | 4C |
| R40 | B | C | 5C |
| R41 | B | C | 5C |
| R42 | B | C | 5C |
| R43 | B | C | 5B |
| R44 | B | C | 5D |
| R45 | B | C | 5A |
| R46 | A | C | 7D |
| R47 | A | C | 7D |
| R48 | A | C | 4C |
| R49 | B | C | 5A |
| R50 | B | C | 5A |
| R51 | A | C | 7A |
| R52 | A | C | 8A |
| R54 | B | C | 7A |
| R55 | B | C | 8A |
| R58 | B | C | 8A |
| R59 | B | C | 8A |
| R60 | A | C | 6A |
| R63 | A | C | 5C |
| R64 | B | C | 5B |
| R101 | B | C | 5D |
| R102 | B | C | 4D |
| R103 | B | C | 4D |
| R104 | B | C | 4C |
| R105 | B | C | 4C |
| R106 | B | C | 4B |
| R107 | B | C | 3D |
| R108 | B | C | 4C |
| R109 | A | C | 3B |
| R110 | B | C | 3B |
| R111 | A | C | 4B |
| R112 | B | C | 3B |
| R113 | A | D | 2D |
| R114 | A | D | 3D |
| R115 | B | C | 3C |
| R116 | A | C | 3C |
| R117 | A | C | 3C |
| R118 | A | C | 3B |
| R119 | A | C | 3B |
| R120 | A | C | 4D |
| R121 | B | C | 3B |
| R122 | B | C | 2B |
| R123 | B | C | 2B |
| R124 | B | C | 3D |
| R125 | B | C | 3C |
| R126 | B | C | 2A |
| R127 | B | C | 3D |
| R128 | B | C | 3C |
| R129 | B | C | 2A |
| R130 | B | C | 2A |
| R131 | B | C | 3C |
| R132 | B | C | 2B |
| R133 | A | C | 3C |
| R134 | B | C | 2D |
| R135 | B | C | 2D |
| R136 | A | C | 3C |
| R137 | B | C | 2C |
| R138 | B | C | 2C |
| R139 | B | C | 2C |
| R140 | B | C | 2C |
| R141 | B | C | 2C |
| R142 | A | C | 4B |
| R143 | B | C | 2B |
| R144 | B | C | 2B |
| R145 | B | C | 1A |
| R146 | B | C | 1A |
| R147 | B | C | 1B |
| R148 | B | C | 4D |
| R149 | A | C | 4C |
| R150 | A | C | 3C |
| R201 | B | C | 10C |
| R202 | A | C | 10C |
| R203 | B | C | 9C |
| R204 | A | C | 10D |
| R205 | A | C | 9D |
| R206 | B | C | 10D |
| R207 | B | C | 10D |
| R208 | B | C | 10D |
| R209 | B | C | 8D |
| R210 | A | C | 11D |
| R211 | B | C | 10D |
| R212 | A | C | 10D |
| R214 | B | C | 9C |
| R215 | B | C | 10C |
| R216 | A | D | 7D |
| R217 | A | C | 10D |
| R218 | B | C | 9D |
| R219 | A | C | 9D |
| R220 | A | C | 9C |
| R221 | B | C | 10C |
| R222 | A | C | 11D |
| R223 | A | C | 8D |
| R301 | B | C | 9B |
| R302 | B | C | 10B |
| R303 | B | C | 10B |
| R304 | B | C | 10B |
| R305 | B | C | 10B |
| R306 | B | C | 10B |
| R307 | B | C | 9A |
| R308 | B | C | 9B |
| TEST POINT | | | |
| TP5 | A | D | 5D |
| TP6 | A | D | 4D |
| TP11 | A | D | 5D |
| TP53 | A | D | 10D |
| TP54 | A | D | 8D |

| REF.NO | LOCATION | | |
|---|---|---|---|
| | IC | | |
| IC101 | B | C | 6 A |

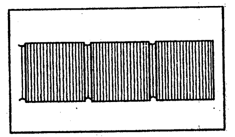
Category : IC

B : Foil side
(A : Component side)
C : Chip component
(D : Discrete component)

Horizontal "A" zone
Vertical "6" zone

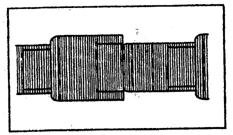
### WAVEFORMS
— PRE/REC —

WF1 CN1-5



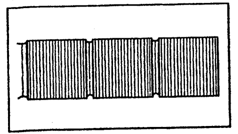
REC4.0Vp-p
0.2V/2msec/DIV

WF4 TP6 PB FM



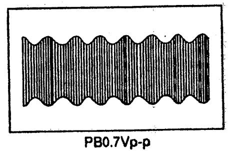
PB0.6Vp-p
20mV/5msec/DIV

WF7 CN3-14



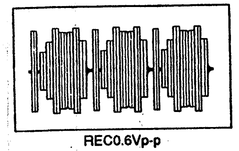
PB0.4Vp-p
20mV/5msec/DIV

WF2 TP53 PB FM



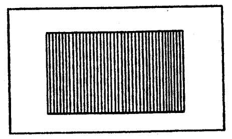
PB0.7Vp-p
20mV/5msec/DIV

WF5 CN3-11 REC COLOR



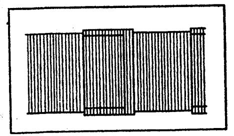
REC0.6Vp-p
20mV/20μsec/DIV

WF3 TP54 REC FM



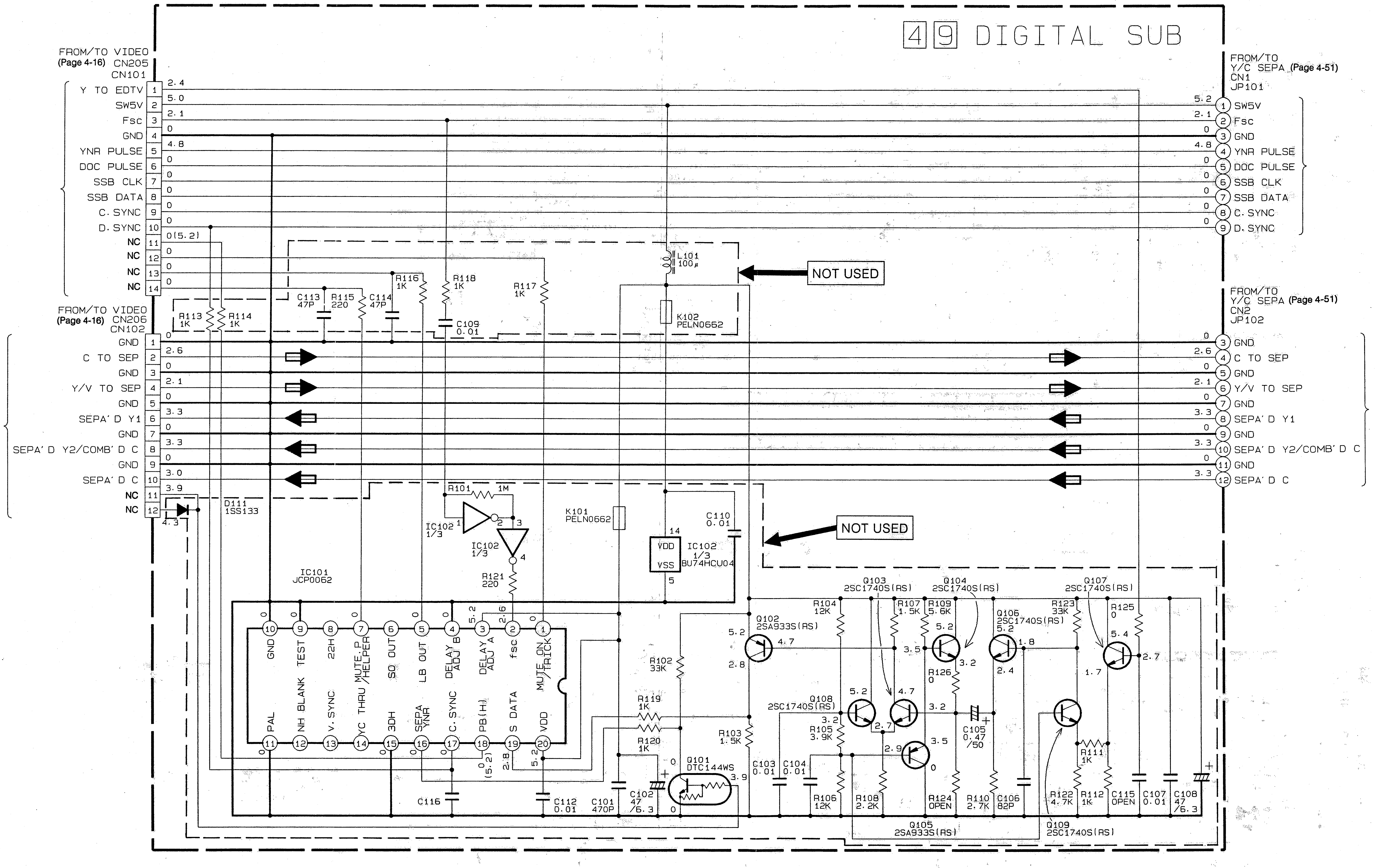
REC0.45Vp-p
20mV/5msec/DIV

WF6 CN3-13



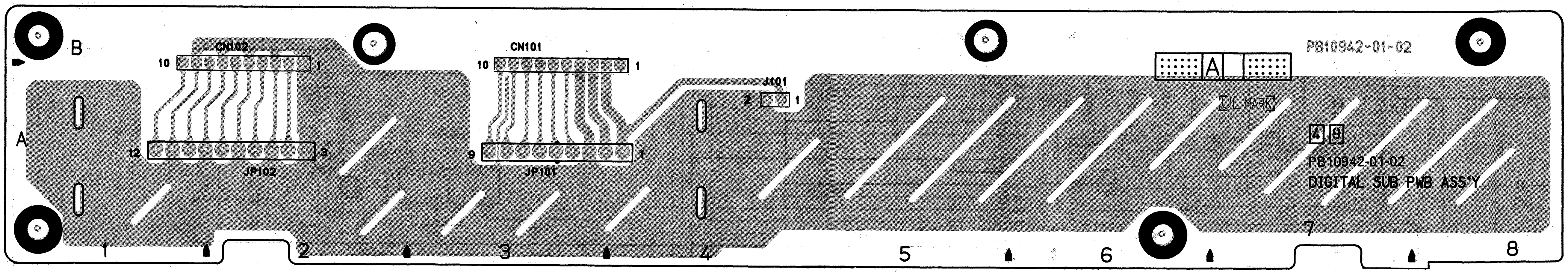
REC0.25Vp-p
10mV/10μsec/DIV

## 4.21 DIGITAL SUB SCHEMATIC DIAGRAM

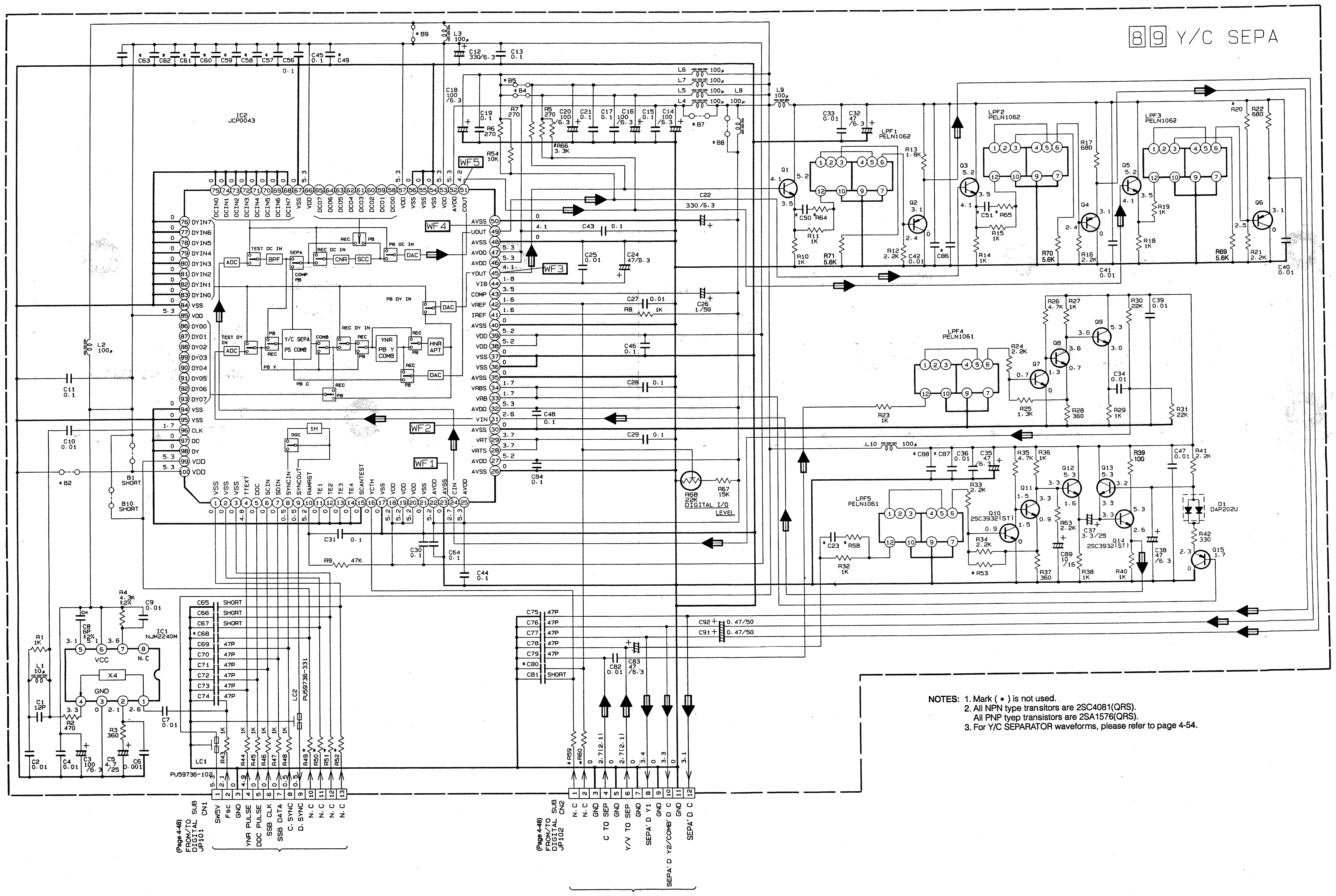


4 9 DIGITAL SUB
FROM/TO VIDEO (Page 4-16) CN205 CN101
Y TO EDTV
SW5V
Fsc
GND
YNR PULSE
DOC PULSE
SSB CLK
SSB DATA
C. SYNC
D. SYNC
NC
FROM/TO VIDEO (Page 4-16) CN206 CN102
C TO SEP
Y/V TO SEP
SEPA' D Y1
SEPA' D Y2/COMB' D C
SEPA' D C
FROM/TO Y/C SEPA (Page 4-51) CN1 JP101
FROM/TO Y/C SEPA (Page 4-51) CN2 JP102
NOT USED
NOT USED
L101 100μ
K102 PELN0662
K101 PELN0662
R113 1K
R114 1K
C113 47P
R115 220
C114 47P
R116 1K
R118 1K
R117 1K
C109 0.01
D111 1SS133
R101 1M
IC102 1/3
IC102 1/3
R121 220
C110 0.01
VDD
VSS
IC102 1/3 BU74HCU04
IC101 JCP0062
GND
TEST
22H
MUTE-P /HELPER
SO OUT
LB OUT
DELAY ADJ B
DELAY ADJ A
fsc
MUTE ON /TRICK
PAL
NH BLANK
V. SYNC
YC THRU
3DH
SEPA YNR
C. SYNC
PB(H)
S DATA
VDD
C116
C112 0.01
C101 470P
C102 47 /6.3
Q101 DTC144WS
R102 33K
R119 1K
R120 1K
R103 1.5K
Q102 2SA933S(RS)
Q103 2SC1740S(RS)
Q104 2SC1740S(RS)
Q105 2SA933S(RS)
Q106 2SC1740S(RS)
Q107 2SC1740S(RS)
Q108 2SC1740S(RS)
Q109 2SC1740S(RS)
R104 12K
R105 3.9K
R106 12K
R107 1.5K
R108 2.2K
R109 5.6K
R110 2.7K
R111 1K
R112 1K
R122 4.7K
R123 33K
R124 OPEN
R125 0
R126 0
C103 0.01
C104 0.01
C105 0.47 /50
C106 82P
C107 0.01
C108 47 /6.3
C115 OPEN
A
B
C
E
F
G
H
1
2
3
4
5
6

## 4.22 DIGITAL SUB CIRCUIT BOARD


B
A
CN102
10
1
12
3
JP102
CN101
10
1
9
1
JP101
J101
2
1
A
PB10942-01-02
UL MARK
4 9
PB10942-01-02
DIGITAL SUB PWB ASS'Y
1
2
3
4
5
6
7
8

## 4.23 Y/C SEPARATOR SCHEMATIC DIAGRAM

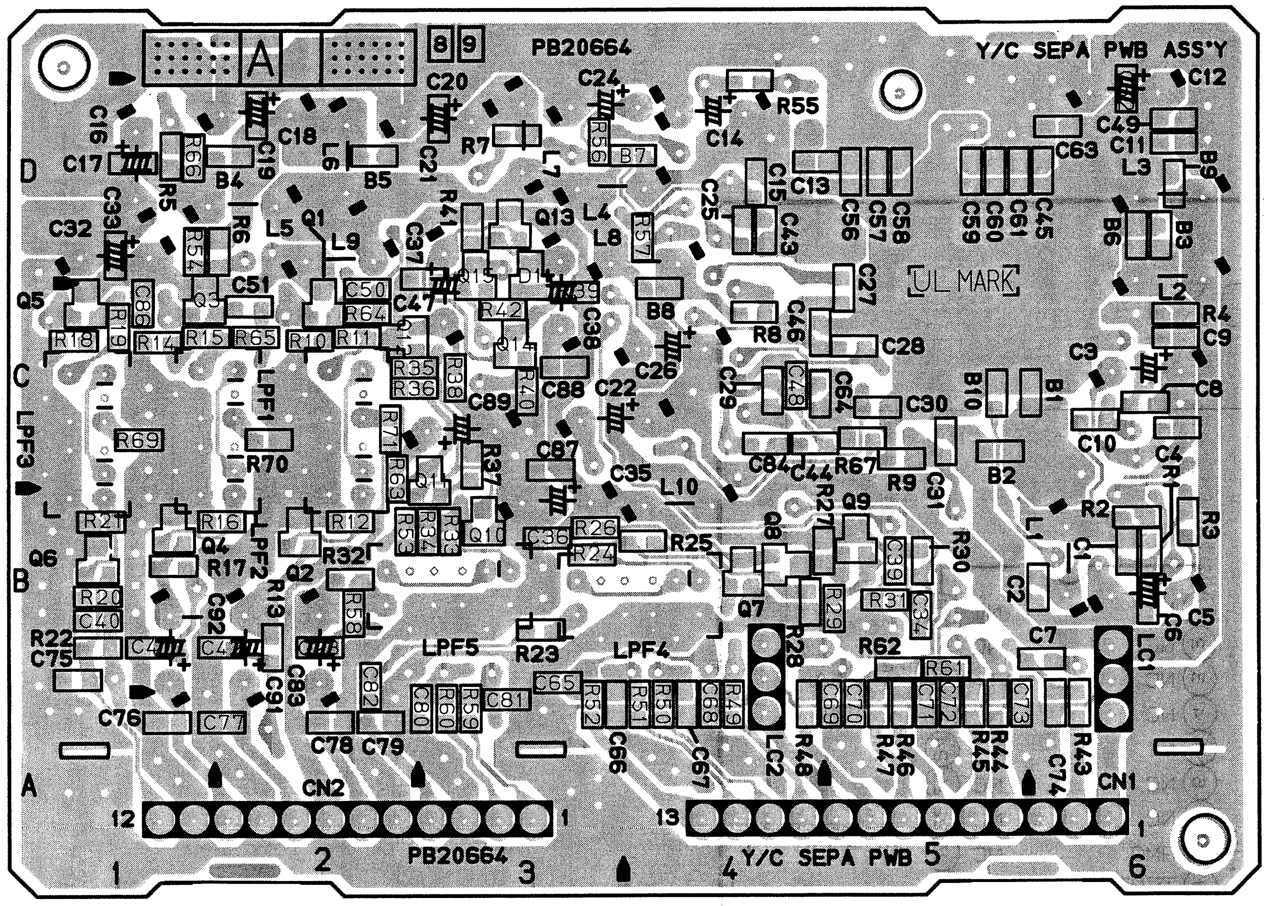


89 Y/C SEPA
IC2
JCP0043
IC1
NJM2240M
LPF1 PELN1062
LPF2 PELN1062
LPF3 PELN1062
LPF4 PELN1061
LPF5 PELN1061
WF1
WF2
WF3
WF4
WF5
Y/C SEPA PS COMB
YNR PB Y COMB
HNR APT
R68 22K DIGITAL I/O LEVEL
D1 DAP202U
Q10 2SC3932(ST)
Q14 2SC3932(ST)
LC1 PU59736-102
LC2 PU59736-331
(Page 4-48) FROM/TO DIGITAL SUB JP101 CN1
SW5V
Fsc
GND
YNR PULSE
DOC PULSE
SSB CLK
SSB DATA
C. SYNC
D. SYNC
N.C
(Page 4-48) FROM/TO DIGITAL SUB JP102 CN2
C TO SEP
Y/V TO SEP
SEPA'D Y1
SEPA'D Y2/COMB'D C
SEPA'D C

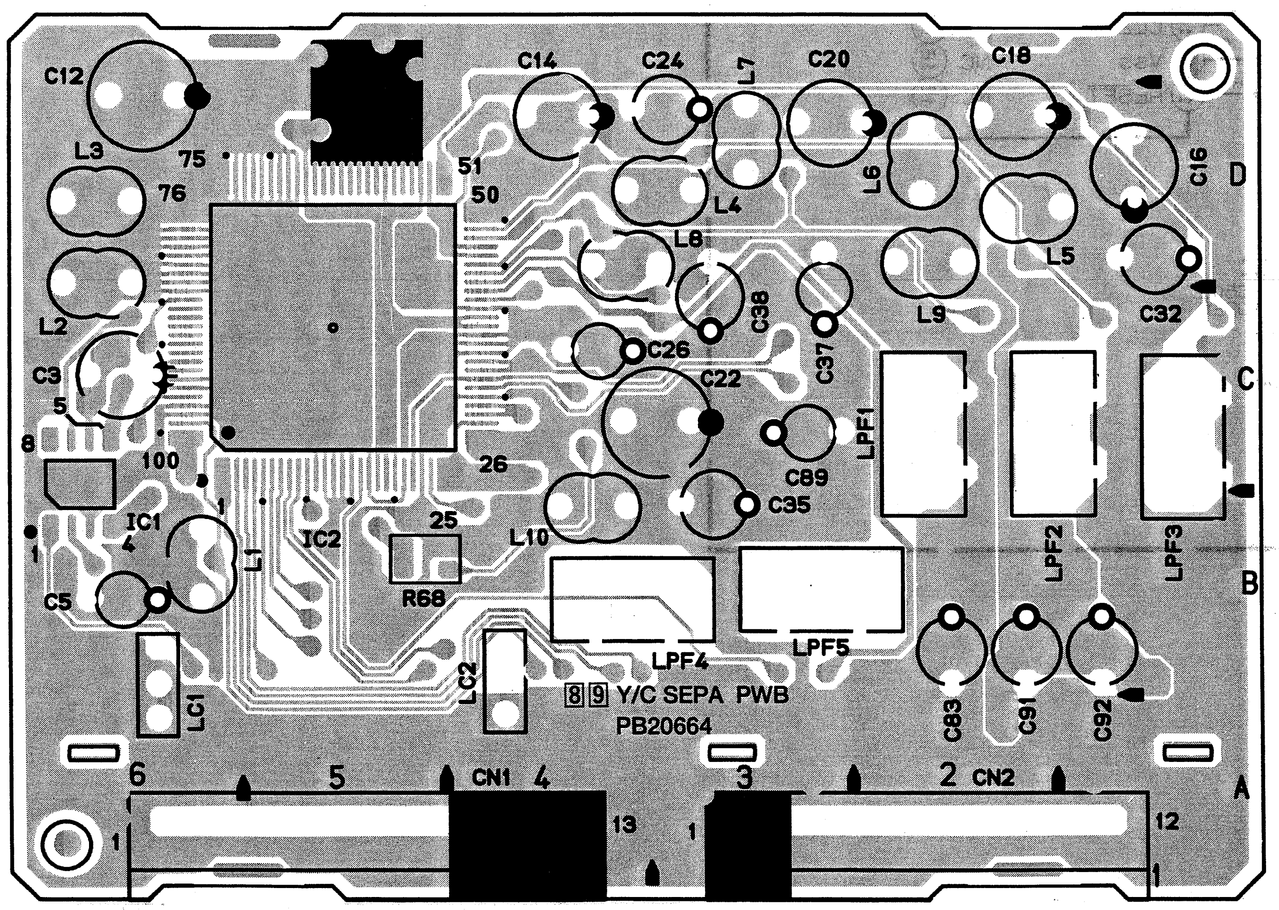
NOTES:
1. Mark ( * ) is not used.
2. All NPN type transitors are 2SC4081(QRS).
All PNP tyep transitors are 2SA1576(QRS).
3. For Y/C SEPARATOR waveforms, please refer to page 4-54.

## 4.24 Y/C SEPARATOR CIRCUIT BOARD

### — FOIL SIDE —

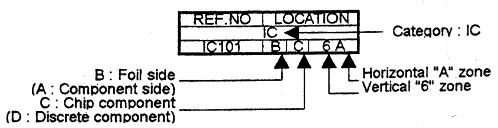

A
8 9
PB20664
Y/C SEPA PWB ASS'Y
UL MARK
C12
C20
C24
R55
C14
C16
C17
C18
C19
C21
L6
R7
R56
B7
L7
L4
L8
L3
C49
C63
C11
B9
C13
C15
C43
C56
C57
C58
C59
C60
C61
C45
B6
B3
R66
R5
B4
B5
R41
Q13
C32
C33
R54
R6
L5
Q1
L9
C37
C25
R57
C27
Q5
C86
Q3
C51
C50
R64
C47
Q15
D1
R42
C39
B8
C46
R8
C28
L2
R4
C9
C3
C8
R18
R14
R15
R65
R10
R11
R35
R36
R38
C89
Q14
R71
C88
C22
C26
C29
C48
C62
C30
B10
B1
C10
C4
R1
R3
R2
C
LPF3
LPF1
R69
R70
C87
R37
Q11
R68
C35
L10
C84
C44
R67
R9
C31
B2
L1
R21
R16
Q4
R17
LPF2
R12
R32
Q2
R33
R34
R53
Q10
C36
R26
R24
R25
Q8
R27
Q9
C39
R30
C2
C1
C6
C5
Q6
B
R20
C40
R22
C75
C41
C42
C92
R19
C91
C38
R58
LPF5
R23
LPF4
Q7
R29
R31
C34
R28
R62
R61
C7
LC1
C83
C82
C80
R60
R59
C81
C65
R52
R51
R50
C68
R49
C69
C70
C71
C72
C73
C76
C77
C78
C79
C66
C67
LC2
R48
R46
R47
R44
R45
R43
C74
CN1
CN2
A
12
13
1
1
2
3
4
5
6
PB20664
Y/C SEPA PWB
D

### — COMPONENT SIDE —


C12
C14
C24
L7
C20
C18
L3
75
76
51
50
L4
L6
C16
D
L2
L8
L5
C38
L9
C32
C3
C26
C37
C22
LPF1
LPF2
LPF3
C
5
8
100
26
C89
C35
IC1
IC2
25
L10
L1
R68
B
C5
LPF4
LPF5
LC1
LC2
8 9 Y/C SEPA PWB
PB20664
C83
C91
C92
6
5
CN1
4
3
2
CN2
A
1
13
1
12
1

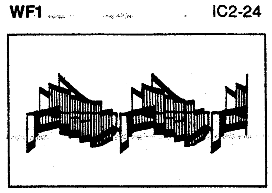
## COMPONENT PARTS LOCATION GUIDE

| REF.NO | LOCATION | | | REF.NO | LOCATION | | | REF.NO | LOCATION | | | REF.NO | LOCATION | | | REF.NO | LOCATION | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAPACITOR | | | | C46 | B | C | 4C | IC | | | | R10 | B | C | 2C | R56 | B | C | 3D |
| C1 | B | C | 6B | C47 | B | C | 3D | IC1 | A | C | 6C | R11 | B | C | 2C | R57 | B | C | 4D |
| C2 | B | C | 6B | C48 | B | C | 4C | IC2 | A | C | 5C | R12 | B | C | 2B | R58 | B | C | 2B |
| C3 | A | D | 6C | C49 | B | C | 6D | COIL | | | | R13 | B | C | 2B | R59 | B | C | 3A |
| C4 | B | C | 6C | C50 | B | C | 2C | L1 | A | D | 6B | R14 | B | C | 1C | R60 | B | C | 3A |
| C5 | A | D | 6B | C51 | B | C | 2C | L2 | A | D | 6D | R15 | B | C | 1C | R61 | B | C | 5B |
| C6 | B | C | 6B | C56 | B | C | 5D | L3 | A | D | 6D | R16 | B | C | 2B | R62 | B | C | 5B |
| C7 | B | C | 6B | C57 | B | C | 5D | L4 | A | D | 3D | R17 | B | C | 1B | R63 | B | C | 2C |
| C8 | B | C | 6C | C58 | B | C | 5D | L5 | A | D | 1D | R18 | B | C | 1C | R64 | B | C | 2C |
| C9 | B | C | 6C | C59 | B | C | 5D | L6 | A | D | 2D | R19 | B | C | 1C | R65 | B | C | 2C |
| C10 | B | C | 6C | C60 | B | C | 5D | L7 | A | D | 3D | R20 | B | C | 1B | R66 | B | C | 1D |
| C11 | B | C | 6D | C61 | B | C | 5D | L8 | A | D | 3D | R21 | B | C | 1B | R67 | B | C | 5C |
| C12 | A | D | 6D | C62 | B | C | 6D | L9 | A | D | 2D | R22 | B | C | 1B | R68 | A | C | 5B |
| C13 | B | C | 4D | C63 | B | C | 6D | L10 | A | D | 4B | R23 | B | C | 3B | R69 | B | C | 1C |
| C14 | A | D | 4D | C64 | B | C | 4C | LOW PASS FILTER | | | | R24 | B | C | 3B | R70 | B | C | 2C |
| C15 | B | C | 4D | C65 | B | C | 3B | LPF1 | A | D | 2C | R25 | B | C | 4B | R71 | B | C | 2C |
| C16 | A | D | 1D | C66 | B | C | 3A | LPF2 | A | D | 2C | R26 | B | C | 3B | | | | |
| C17 | B | C | 1D | C67 | B | C | 4A | LPF3 | A | D | 1C | R27 | B | C | 5B | | | | |
| C18 | A | D | 2D | C68 | B | C | 4A | LPF4 | A | D | 3B | R28 | B | C | 4B | | | | |
| C19 | B | C | 2D | C69 | B | C | 5A | LPF5 | A | D | 2B | R29 | B | C | 5B | | | | |
| C20 | A | D | 3D | C70 | B | C | 5A | TRANSISTOR | | | | R30 | B | C | 5B | | | | |
| C21 | B | C | 3D | C71 | B | C | 5A | Q1 | B | C | 2C | R31 | B | C | 5B | | | | |
| C22 | A | D | 4C | C72 | B | C | 5A | Q2 | B | C | 2B | R32 | B | C | 2B | | | | |
| C23 | B | C | 2B | C73 | B | C | 5A | Q3 | B | C | 1C | R33 | B | C | 3B | | | | |
| C24 | A | D | 4D | C74 | B | C | 6A | Q4 | B | C | 1B | R34 | B | C | 3B | | | | |
| C25 | B | C | 4D | C75 | B | C | 1B | Q5 | B | C | 1C | R35 | B | C | 2C | | | | |
| C26 | A | D | 4C | C76 | B | C | 1A | Q6 | B | C | 1B | R36 | B | C | 2C | | | | |
| C27 | B | C | 5C | C77 | B | C | 2A | Q7 | B | C | 4B | R37 | B | C | 3C | | | | |
| C28 | B | C | 5C | C78 | B | C | 2A | Q8 | B | C | 4B | R38 | B | C | 3C | | | | |
| C29 | B | C | 4C | C79 | B | C | 2A | Q9 | B | C | 5B | R39 | B | C | 3C | | | | |
| C30 | B | C | 5C | C80 | B | C | 3A | Q10 | B | C | 3B | R40 | B | C | 3C | | | | |
| C31 | B | C | 5C | C81 | B | C | 3A | Q11 | B | C | 3C | R41 | B | C | 3D | | | | |
| C32 | A | D | 1D | C82 | B | C | 2B | Q12 | B | C | 2C | R42 | B | C | 3C | | | | |
| C33 | B | C | 1D | C83 | A | D | 2B | Q13 | B | C | 3D | R43 | B | C | 6A | | | | |
| C34 | B | C | 5B | C84 | B | C | 4C | Q14 | B | C | 3C | R44 | B | C | 5A | | | | |
| C35 | A | D | 3B | C86 | B | C | 1C | Q15 | B | C | 3D | R45 | B | C | 5A | | | | |
| C36 | B | C | 3B | C87 | B | C | 3C | RESISTOR | | | | R46 | B | C | 5A | | | | |
| C37 | A | D | 3D | C88 | B | C | 3C | R1 | B | C | 6B | R47 | B | C | 5A | | | | |
| C38 | A | D | 3D | C89 | A | D | 3C | R2 | B | C | 6B | R48 | B | C | 4A | | | | |
| C39 | B | C | 5B | C91 | A | D | 2B | R3 | B | C | 6B | R49 | B | C | 4A | | | | |
| C40 | B | C | 1B | C92 | A | D | 1B | R4 | B | C | 6C | R50 | B | C | 4A | | | | |
| C41 | B | C | 1B | CONNECTOR | | | | R5 | B | C | 1D | R51 | B | C | 4A | | | | |
| C42 | B | C | 2B | CN1 | A | D | 4A | R6 | B | C | 2D | R52 | B | C | 3A | | | | |
| C43 | B | C | 4D | CN2 | A | D | 1A | R7 | B | C | 3D | R53 | B | C | 2B | | | | |
| C44 | B | C | 4C | DIODE | | | | R8 | B | C | 4C | R54 | B | C | 1D | | | | |
| C45 | B | C | 6D | D1 | B | C | 3D | R9 | B | C | 5C | R55 | B | C | 4D | | | | |

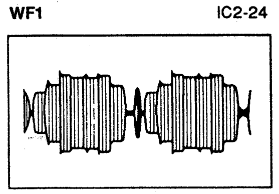

REF.NO
LOCATION
IC
IC101
B
C
6 A
Category : IC
Horizontal "A" zone
Vertical "6" zone
B : Foil side
(A : Component side)
C : Chip component
(D : Discrete component)

WAVEFORMS

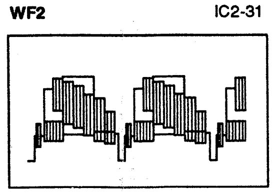
— Y/C SEPARATOR —



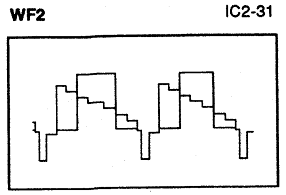
REC1.4Vp-p
50mV/20µsec/DIV



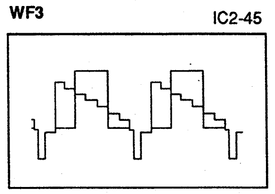
PB1.0Vp-p
50mV/20µsec/DIV



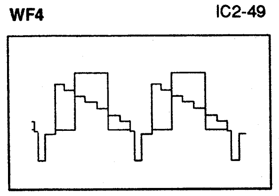
REC1.5Vp-p
50mV/20µsec/DIV



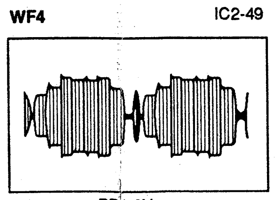
PB1.5Vp-p
50mV/20µsec/DIV



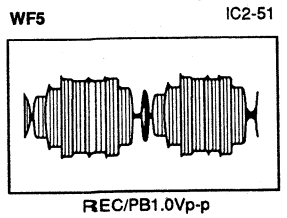
REC/PB1.5Vp-p
50mV/20µsec/DIV



REC1.5Vp-p
50mV/20µsec/DIV

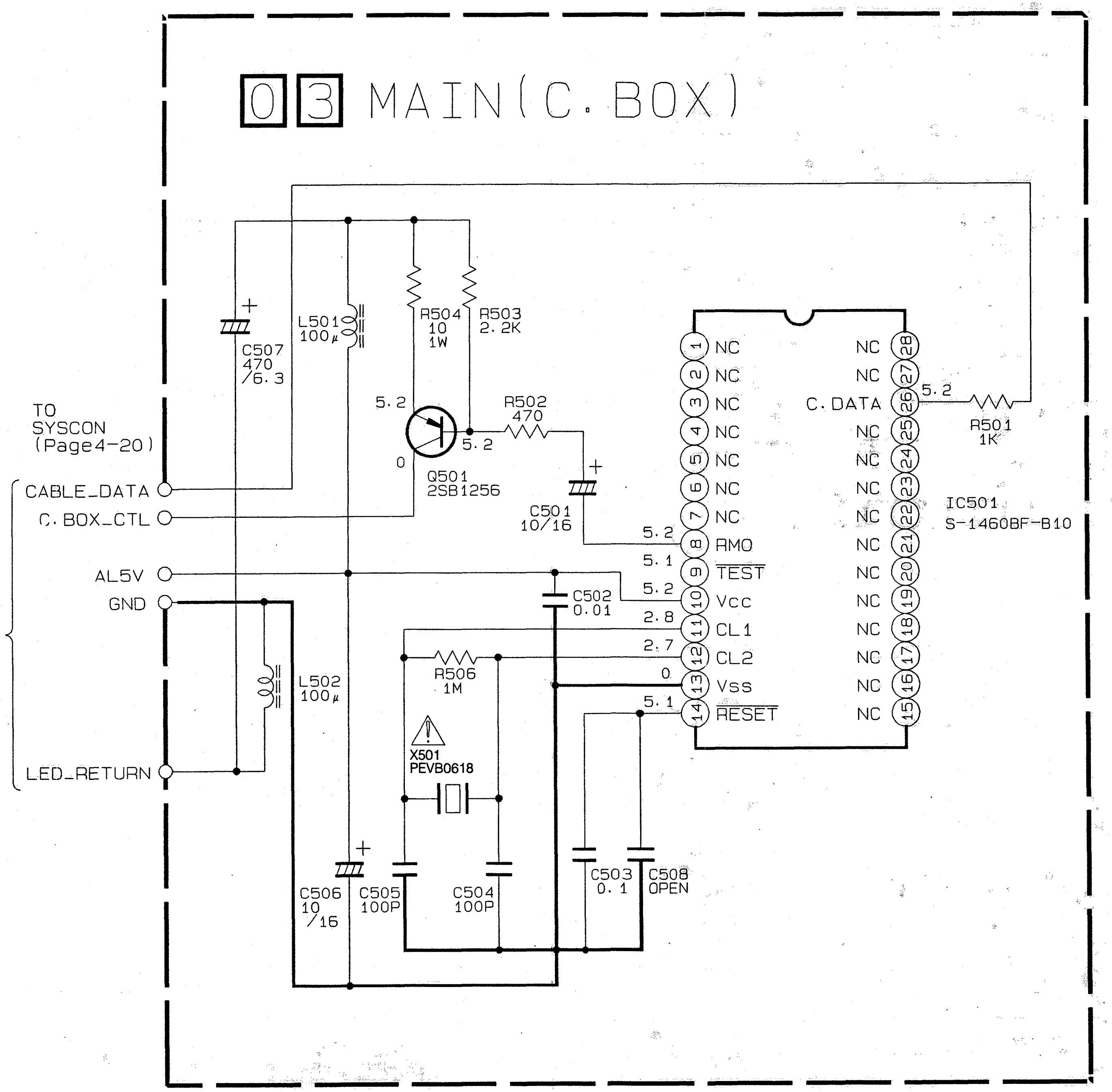


PB1.0Vp-p
50mV/20µsec/DIV



REC/PB1.0Vp-p
50mV/20µsec/DIV

## 4.25 CABLE BOX SCHEMATIC DIAGRAM


03 MAIN(C.BOX)
TO SYSCON (Page4-20)
CABLE_DATA
C.BOX_CTL
AL5V
GND
LED_RETURN
C507 470 /6.3
L501 100μ
R504 10 1W
R503 2.2K
5.2
0
Q501 2SB1256
5.2
R502 470
C501 10/16
C502 0.01
R506 1M
X501 PEVB0618
L502 100μ
C506 10 /16
C505 100P
C504 100P
C503 0.1
C508 OPEN
IC501 S-1460BF-B10
R501 1K
5.2
1 NC
2 NC
3 NC
4 NC
5 NC
6 NC
7 NC
5.2 8 RMO
5.1 9 TEST
5.2 10 Vcc
2.8 11 CL1
2.7 12 CL2
0 13 Vss
5.1 14 RESET
28 NC
27 NC
26 C.DATA
25 NC
24 NC
23 NC
22 NC
21 NC
20 NC
19 NC
18 NC
17 NC
16 NC
15 NC

6

## 4.26 REMOTE CONTROL SCHEMATIC DIAGRAM

## — for HR-S5200U —

**NOTE:**
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
   Avoid replacing individual parts.
   Replace the entire unit only.

5

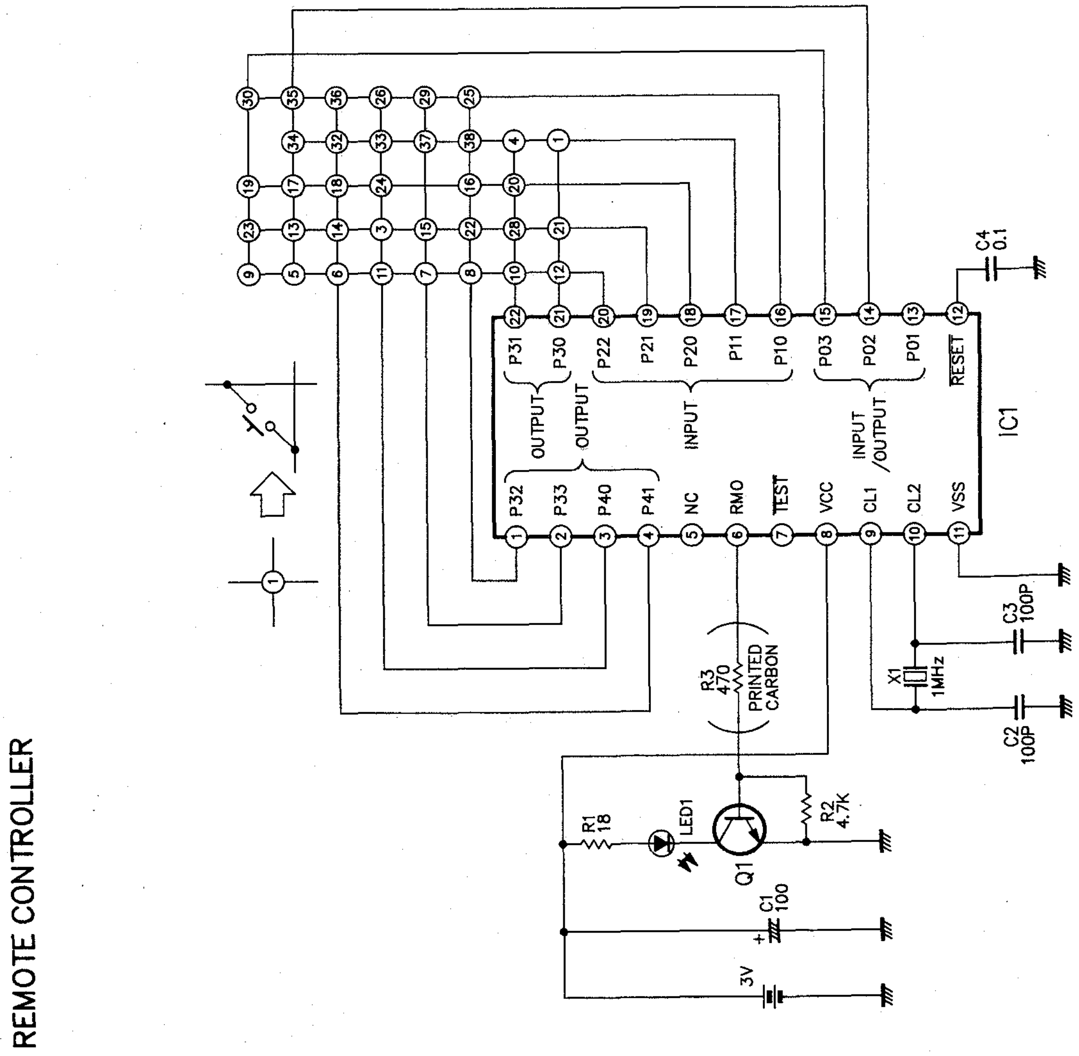
4

| Key No. | Key Name | Key No. | Key Name |
|---|---|---|---|
| 1 | ONE PRESS INDEX | 31 | —— |
| 2 | —— | 32 | PAUSE |
| 3 | TIMER | 33 | MENU |
| 4 | POWER | 34 | SELECT |
| 5 | 1 | 35 | C MEMORY |
| 6 | 2 | 36 | CANCEL |
| 7 | 3 | 37 | CH − |
| 8 | 4 | 38 | CH + |
| 9 | 5 | 29+26 | REC PLAY |
| 10 | 6 | 29+32 | REC PAUSE |
| 11 | 7 | 17+4 | TV POWER |
| 12 | 8 | 17+18 | TV/VIDEO |
| 13 | 9 | (17+)21 | TV VOL − |
| 14 | 0 | (17+)22 | TV VOL + |
| 15 | DISPLAY | 17+37 | TV CH − |
| 16 | ENTER | 17+38 | TV CH + |
| 17 | TV | | |
| 18 | TV/VIDEO | | |
| 19 | SP/EP | | |
| 20 | SKIP | | |
| 21 | TV VOL − | | |
| 22 | TV VOL + | | |
| 23 | SEARCH « | | |
| 24 | SEARCH » | | |
| 25 | REW | | |
| 26 | PLAY | | |
| 27 | —— | | |
| 28 | FF | | |
| 29 | REC | | |
| 30 | STOP | | |

3

2

1

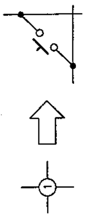

IC1
P32
P33
P40
P41
NC
RMO
TEST
VCC
CL1
CL2
VSS
P31
P30
P22
P21
P20
P11
P10
P03
P02
P01
RESET
OUTPUT
OUTPUT
INPUT
INPUT /OUTPUT
C4 0.1
C3 100P
C2 100P
X1 1MHz
R3 470
PRINTED CARBON
R1 18
LED1
Q1
R2 4.7K
C1 100
3V
REMOTE CONTROLLER

A B C D

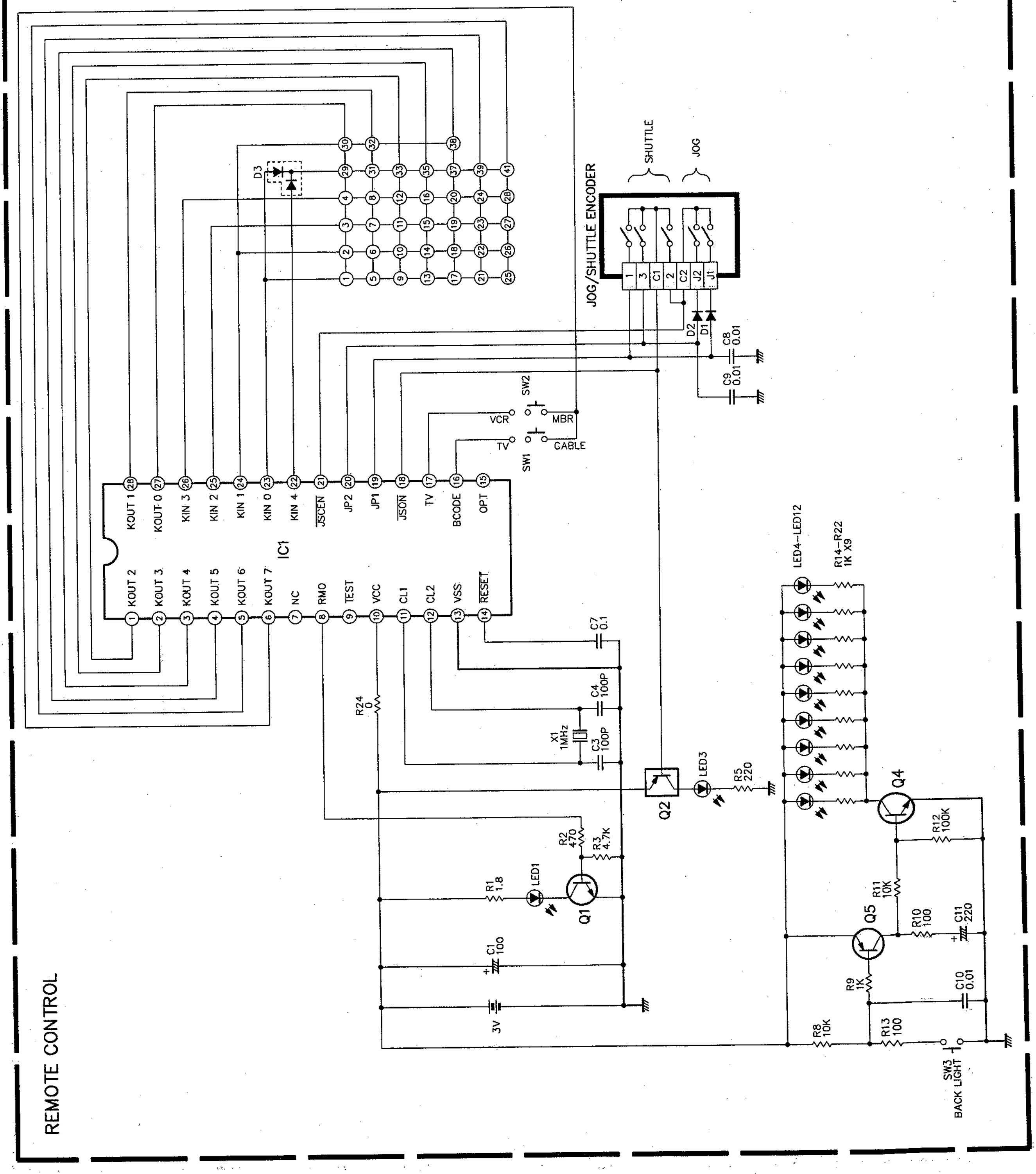
**NOTE:**

1. **All parts shown in this schematic are critical for safety.**
2. **This schematic is only for reference.**
   **Avoid replacing individual parts.**
   **Replace the entire unit only.**

## — for HR-S7200U —



| Key No. | Key NAME |
|---|---|
| 1 | 3 |
| 2 | 5 |
| 3 | 1 |
| 4 | 2 |
| 5 | 6 |
| 6 | 8 |
| 7 | 4 |
| 8 | TV/VIDEO |
| 9 | 9 |
| 10 | 0 |
| 11 | 7 |
| 12 | POWER |
| 13 | CH/SET – |
| 14 | CH/SET + |
| 15 | TV VOL + |
| 16 | TV VOL – |
| 17 | MENU |
| 18 | SELECT |
| 19 | C.MEMORY/ADD |
| 20 | ENTER/OSD |
| 21 | TIMER |
| 22 | V.SEARCH >> |
| 23 | V.SEARCH << |
| 24 | SP/LP |
| 25 | C.RESET/SKIP |
| 26 | SKIP/SEARCH |
| 27 | RE–VIEW |
| 28 | DISPLAY |
| 29 | PAUSE/STILL ■■ |
| 30 | – |
| 31 | JOG/SHUTTLE |
| 32 | – |
| 33 | REC ● |
| 35 | REW ◀◀ |
| 37 | PLAY ▶ |
| 38 | – |
| 39 | FF ▶▶ |
| 41 | STOP ■ |
| 33+29 | REC PAUSE |
| 33+37 | REC START |



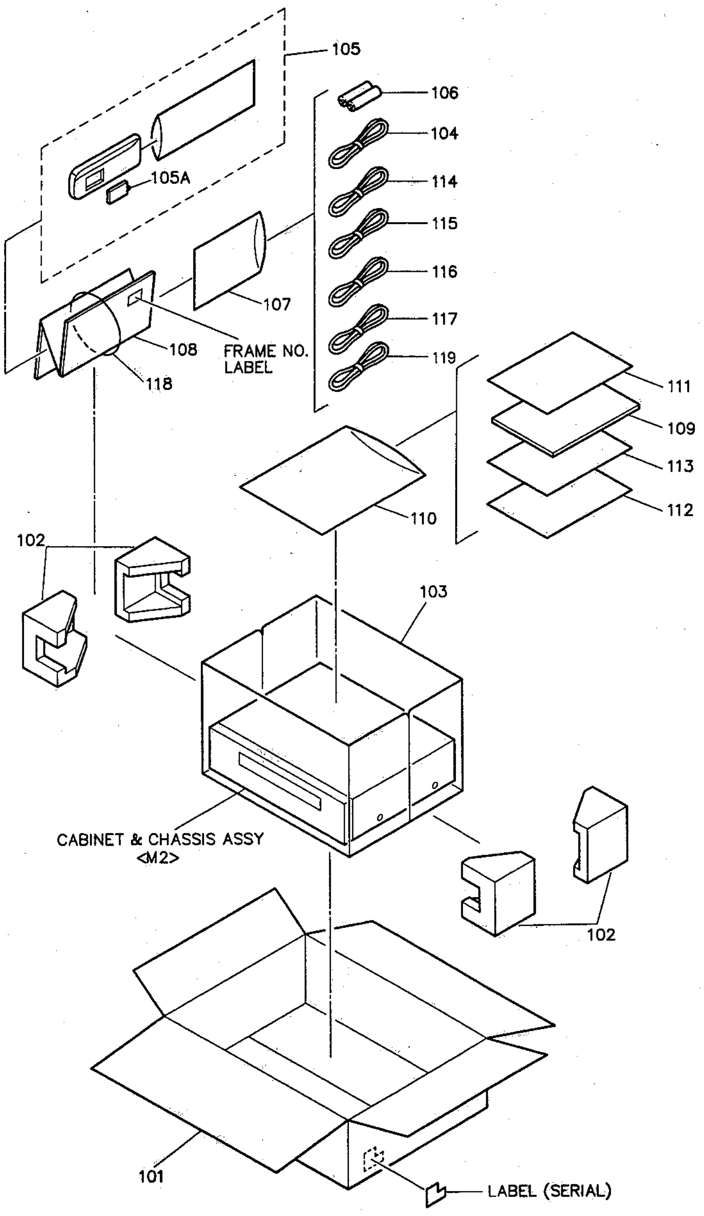
IC1
KOUT 1
KOUT 0
KIN 3
KIN 2
KIN 1
KIN 0
KIN 4
JSCEN
JP2
JP1
JSON
TV
BCODE
OPT
KOUT 2
KOUT 3
KOUT 4
KOUT 5
KOUT 6
KOUT 7
NC
RMO
TEST
VCC
CL1
CL2
VSS
RESET
D3
JOG/SHUTTLE ENCODER
SHUTTLE
JOG
1
3
C1
2
C2
J2
J1
D2
D1
C8 0.01
C9 0.01
SW2
VCR
MBR
TV
CABLE
SW1
C7 0.1
C4 100P
X1 1MHz
C3 100P
R24 0
Q2
LED3
R5 220
R2 470
R3 4.7K
R1 1.8
LED1
Q1
C1 100
3V
LED4–LED12
R14–R22 1K X9
Q4
R12 100K
R11 10K
Q5
R10 100
C11 220
R9 1K
C10 0.01
R8 10K
R13 100
SW3 BACK LIGHT
REMOTE CONTROL
6
5
4
3
2
1
A
B
C
D

# SECTION 5
# PARTS LIST

## SAFETY PRECAUTION

**Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.**

### 5.1 PACKING AND ACCESSORY ASSEMBLY <M1>


105
106
104
105A
114
115
116
107
117
108
FRAME NO. LABEL
119
118
111
109
113
110
112
102
103
CABINET & CHASSIS ASSY <M2>
102
101
LABEL (SERIAL)

*********************************

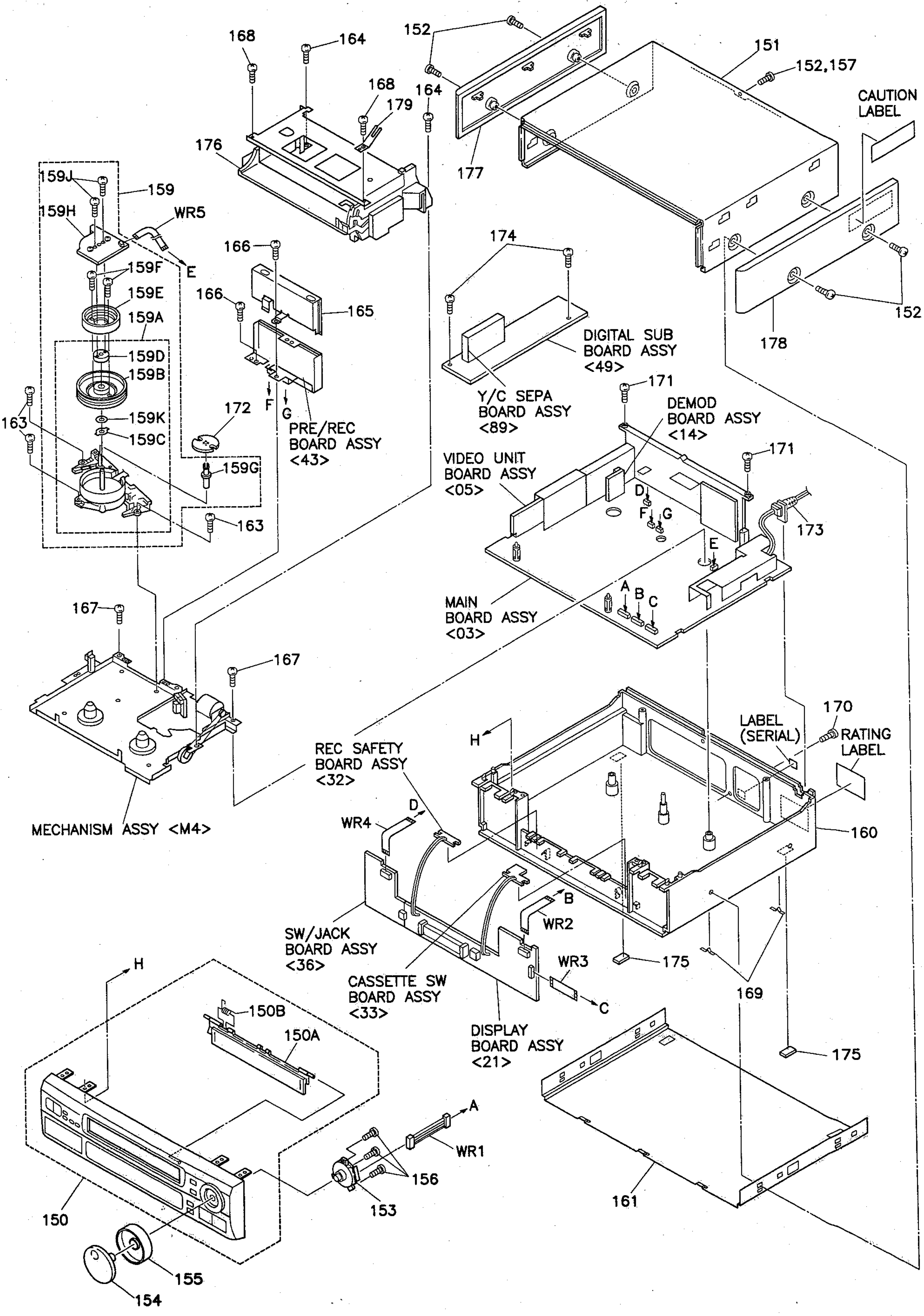
## PACKING AND ACCESSORY ASSEMBLY <M1>

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|---|
| | 101 | PQ35407 | PACKING CASE,S5200U |
| | | PQ35408 | PACKING CASE,S7200U |
| | 102 | PQ35413A | CUSHION ASSY |
| | 103 | PQM30021-93 | POLY(FOAM)BAG,S5200U |
| | | PQM30021-95 | POLY(FOAM)BAG,S7200U |
| | 104 | PEAC0294-04 | RF CABLE |
| ⚠ | 105 | PQ21760A-3 | REMOTE CONTROLLER,S5200U |
| ⚠ | | PQ11525U-20 | REMOTE CONTROLLER,S7200U |
| | 105A | PQ46034 | CAP(BATTERY),S7200U |
| | 106 | PECA0786 | BATTERY,X2 S5200U |
| | | R6PRPA-2ST | BATTERY,X2 S7200U |
| | 107 | PQ35364-2 | POLY BAG |
| | | PQ35364-5 | POLY BAG |
| | 108 | PQ35274-1-1 | SHEET,ACCESSORY |
| ⚠ | 109 | PU30425-1746 | INSTRUCTIONS,S5200U |
| ⚠ | | PU30425-1747 | INSTRUCTIONS,S7200U |
| | 110 | PQ35364-5 | POLY BAG |
| | 111 | BT-51006-1 | REGIST.CARD |
| ⚠ | 112 | YU20333 | SAFETY CAUTION |
| | 113 | PU36560-2 | CONECTION SHEET |
| ⚠ | 114 | PEAC0370 | LED CABLE ASSY,CABLE BOX |
| | 115 | PEAC0359-120 | PIN CORD,A/V CABLE |
| | 116 | PU60111 | S CABLE |
| | 117 | PEAC0368-150 | CABLE ASSY,MINI-PLUG CABLE |
| | 118 | PQ46504 | RUBBER BAND |
| | 119 | PEAC0294-04 | RF CABLE |

## 5.2 CABINET AND CHASSIS ASSEMBLY <M2>

### BEWARE OF BOGUS PARTS

***Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.***



168
164
152
151
152,157
CAUTION LABEL
168
179
164
176
177
159J
159
159H
WR5
E
159F
159E
159A
159D
159B
159K
159C
159G
163
163
166
166
165
172
F
G
PRE/REC BOARD ASSY <43>
174
DIGITAL SUB BOARD ASSY <49>
Y/C SEPA BOARD ASSY <89>
152
178
171
DEMOD BOARD ASSY <14>
171
VIDEO UNIT BOARD ASSY <05>
D
F
G
173
E
A
B
C
MAIN BOARD ASSY <03>
167
167
170
LABEL (SERIAL)
RATING LABEL
H
REC SAFETY BOARD ASSY <32>
D
WR4
160
MECHANISM ASSY <M4>
B
WR2
WR3
175
SW/JACK BOARD ASSY <36>
CASSETTE SW BOARD ASSY <33>
C
169
H
150B
150A
DISPLAY BOARD ASSY <21>
175
A
WR1
156
153
161
150
155
154

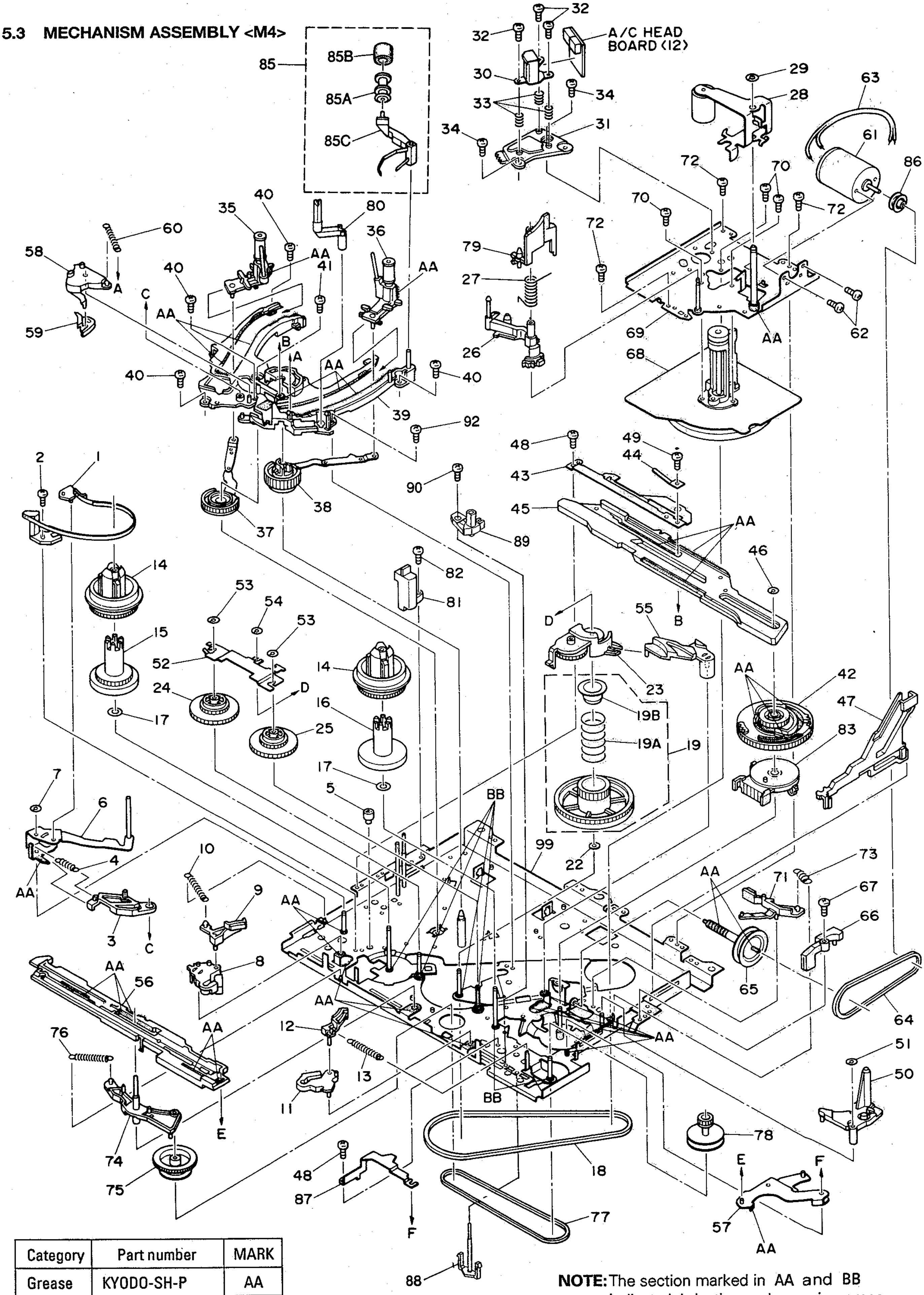
#⚠ REF No. PART No. PART NAME, DESCRIPTION

*********************************

## CABINET AND CHASSIS ASSEMBLY <M2>

| | | | |
|---|---|---|---|
| ⚠ | 150 | PQ11802U | FRONT PANEL ASSY,S5200U |
| ⚠ | | PQ11802V-5 | FRONT PANEL ASSY,S7200U |
| | 150A | PQ21818-15 | CASSETTE DOOR |
| | 150B | PQ46448 | TORSION SPRING |
| ⚠ | 151 | PQ11676-12 | TOP COVER,S5200U |
| ⚠ | | PQ11676-9 | TOP COVER,S7200U |
| | 152 | PQ43930 | SPECIAL SCREW,X4 TOP COVER S7200U |
| | | SDSF3010M | SCREW,X5 TOP COVER S5200U |
| | 153 | PEME0757-03 | JOG SHUTTLE ASSY |
| | 154 | PQ35247-2 | KNOB(JOG) |
| | 155 | PQ35295 | KNOB(SHUTTLE) |
| | 156 | SDSF2608Z | SCREW,X3 JOG |
| | 157 | SDSF3010M | SCREW,TOP COVER S7200U |
| | 159 | PDV2368A | DRUM ASSY,S5200U |
| | | PDV2391A | DRUM ASSY,S7200U |
| | 159A | PDM2261V | DRUM SUB ASSY,S5200U |
| | | PDM2261Y | DRUM SUB ASSY,S7200U |
| | 159B | PDM3353AB | UPPER DRUM ASSY,S7200U |
| | | PDM3353AQ | UPPER DRUM ASSY,S5200U |
| | 159C | PDM4400C | BRUSH ASSEMBLY |
| | 159D | PDM4345A | COLLAR ASSEMBLY |
| | 159E | PDZ0141-2 | ROTOR ASSEMBLY |
| | 159F | SPSH2660Z | SCREW,X2 |
| | 159G | PDM4311A-1 | ROLLER ASSEMBLY |
| ⚠ | 159H | PDZ0141-1-2 | STATOR ASSEMBLY |
| | 159J | SPSP2606Z | SCREW,X2 |
| | 159K | PDM4050-9 | WASHER |
| ⚠ | 160 | PQ11666-5 | BOTTOM CHASSIS |
| ⚠ | 161 | PQ11668-2 | BOTTOM COVER |
| | 163 | SPST2608Z | SCREW,X3 DRUM |
| | 164 | SPST2612Z | SCREW,X2 CASS HOUSING ASSY |
| | 165 | PQ21806 | SHIELD CASE.PRE |
| | 166 | SDST2606Z | SCREW,X2 PRE |
| | 167 | SDSF4012Z | SCREW,X2 MECHA |
| | 168 | SDSF3010Z | SCREW,X2 CASS HOUSING ASSY |
| ⚠ | 169 | PQ46412-2 | E.SPRING,X2 |
| | 170 | SDSF3010M | SCREW,TERMINAL |
| | 171 | SDSF3010Z | SCREW,X2 TERMINAL |
| | 172 | PQ44230 | INERTIA PLATE |
| ⚠ | 173 | QMP14K0-170 | POWER CORD |
| | 174 | SDSF3010Z | SCREW,X2 |
| | 175 | PQ43013-5 | FOOT,X2 |
| | 176 | PUS29724A-5 | CASSETTE HOUSING ASSY |
| | 177 | PQ11842 | SIDE PANEL(L),S7200U |
| | 178 | PQ11843 | SIDE PANEL(R),S7200U |
| | 179 | PQ41556 | EARTH PLATE |
| | WR1 | PW30202-0772018 | WIRE,JOG |
| | WR2 | PW30802-0814 | WIRE,DISPLAY |
| | WR3 | PW30802-0515 | WIRE,DISPLAY |
| | WR4 | PW30802-0636 | WIRE,DISPLAY |
| | WR5 | PW30803-0422 | WIRE,DRUM |

## 5.3 MECHANISM ASSEMBLY <M4>


85
85B
85A
85C
32
A/C HEAD BOARD (12)
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61
86
72
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60
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AA
A
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55
D
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19B
19A
19
22
42
47
83
7
6
4
3
10
9
8
56
76
74
75
12
13
11
E
BB
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73
71
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57
F
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18
77
88

| Category | Part number | MARK |
|---|---|---|
| Grease | KYODO-SH-P | AA |
| Oil | COSMO-HV56 | BB |

**NOTE:** The section marked in AA and BB indicate lubrication and greasing areas.

## MECHANISM ASSEMBLY <M4>

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| 1 | PQ46298A-5 | TENSION BAND ASSEMBLY |
| 2 | SDST2608Z | SCREW |
| 3 | PQ35012-1-3 | TENSION ARM LEVER |
| 4 | PQM30001-385109 | TENSION SPRING |
| 5 | PQ46302-1-3 | ADJUST PIN |
| 6 | PQ46303A-3 | TENSION ARM ASSEMBLY |
| 7 | PQM30017-47 | SLIT WASHER |
| 8 | PQ46305B-3 | MAIN BRAKE ASSEMBLY(SUPPLY) |
| 9 | PQ46306A-3 | SUB BRAKE ASSEMBLY(SUPPLY) |
| 10 | PQM30001-393 | TENSION SPRING |
| 11 | PQ46308A-3 | MAIN BRAKE ASSEMBLY(TAKE UP) |
| 12 | PQ46309A-4 | SUB BRAKE ASSEMBLY (TAKE UP) |
| 13 | PQM30001-389102 | TENSION SPRING |
| 14 | PQ21683-1-7 | REEL DISK,X2 |
| 15 | PQ35014-1-1 | SLIT DISK(SUPPLY) |
| 16 | PQ35015-1-1 | SLIT DISK(TAKE UP) |
| 17 | Q03093-828 | WASHER,X2 |
| 18 | PQM30003-33 | BELT(CAPSTAN) |
| 19 | PQ46497B | PULLEY ASSEMBLY |
| 19A | PQM30002-233 | COMP.SPRING |
| 19B | PQ46311 | SPRING.CAP |
| 22 | PQM30018-69 | SPACER |
| 23 | PQ46312B | IDLER ARM ASSEMBLY |
| 24 | PQ46316A-1 | CLUTCH UNIT(SUPPLY) |
| 25 | PQ46323A-1 | CLUTCH UNIT(TAKE UP) |
| 26 | PQ46325B | GUIDE ARM ASSEMBLY |
| 27 | PQ46326-1-2 | TORSION SPRING |
| 28 | PQ46327A | PINCH ROLLER ARM ASSEMBLY |
| 29 | PQM30017-24 | SLIT WASHER |
| 30 | PEHE0182 | AUDIO/CONTROL HEAD |
| 31 | PQ35206 | HEAD BASE |
| 32 | PQ43687A | SPECIAL SCREW,X3 |
| 33 | PQM30002-192 | COMPRESSION SPRING,X3 |
| 34 | SDST2604Z | SCREW,X2 |
| 35 | PQ46330A-1 | POLE BASE ASSY(SUPPLY) |
| 36 | PQ46331A-1 | POLE BASE ASSY(TAKE UP) |
| 37 | PQ46332A-3 | LOADING ARM ASSY(SUPPLY) |
| 38 | PQ46337A-4 | LOADING ARM ASSY(TAKE UP) |
| 39 | PQ11657-1-9 | GUIDE RAIL |
| 40 | SPST2608Z | SCREW,X4 |
| 41 | SDST2612Z | SCREW |
| 42 | PQ21684-1-3 | CONTROL CAM |
| 43 | PQ35138-1-2 | CONTROL BRACKET |
| 44 | PQ46423 | EARTH PLATE |
| 45 | PQ11658-1-5 | CONTROL PLATE |
| 46 | PQM30017-8 | SLIT WASHER |
| 47 | PQ21685-2-6 | PINCH PLATE |
| 48 | SPST2606Z | SCREW,X2 |
| 49 | SPSF2608M | SCREW |
| 50 | PQ46342A-6 | LEVER ASSY |
| 51 | PQM30017-8 | SLIT WASHER |
| 52 | PQ35083-1-7 | REEL BRACKET |
| 53 | PQM30017-51 | SLIT WASHER,X2 |
| 54 | Q03093-830 | WASHER |
| 55 | PQ35026-1-4 | IDLER LEVER |
| 56 | PQ11659-1-10 | SLIDE PLATE |
| 57 | PQ46344A-2 | CHANGE LEVER ASSEMBLY |
| 58 | PQ21686 | TAKE UP LEVER |
| 59 | PQ46345 | TAKE UP HEAD |
| 60 | PQM30001-387106 | TENSION SPRING |
| ⚠ 61 | PU60628-4 | LOADING MOTOR |
| 62 | SPSP3003Z | SCREW,X2 |
| 63 | PW30101-80AJ632 | WIRE |
| 64 | PQM30003-34-17 | BELT |
| 65 | PQ46395A | WORM GEAR ASSEMBLY |
| 66 | PQ21699 | WORM BEARING |
| 67 | SPST2606Z | SCREW |
| ⚠ 68 | PU61435 | CAPSTAN MOTOR |
| 69 | PQ46347B-8 | SUB DECK ASSEMBLY |
| 70 | SPSG2608Z | SCREW,X3 |
| 71 | PQ46356A-1 | CAPSTAN BRAKE ASSEMBLY |
| 72 | SDST2608Z | SCREW,X3 |
| 73 | PQM30001-384101 | TENSION SPRING,C.BRAKE |
| 74 | PQ46353A-2 | CHANGE ARM ASSEMBLY |
| 75 | PQ46354 | CHANGE GEAR |
| 76 | PQM30001-386 | TENSION SPRING |
| 77 | PQM30003-35 | BELT |
| 78 | PQ46355 | CASSETTE GEAR |
| 79 | PQ35030-1-4 | LID GUIDE |
| 80 | PQ21689 | LED PRISM |
| 81 | PEHE0237 | FULL ERASE HEAD |
| 82 | SDST2610Z | SCREW |
| 83 | PU61432-1-1 | ROTARY ENCODER |
| 85 | PQ46436A-1 | CLEANER ASSEMBLY |
| 85A | PQ46418-1-2 | CLEANER ROLLER |
| 85B | PQ46419-1-2 | CLEANER |
| 85C | PQ35159-1-1 | CLEANER ARM |
| 86 | PQ43546-1-2 | MOTOR PULLEY |
| 87 | PQ35217-1-2 | CONTROL BRACKET 2 |
| 88 | PQ46473 | S-SW PIN |
| 89 | PQ46474-1-2 | S-SW HOLDER |
| 90 | SPST2606Z | SCREW |
| 92 | SDST2608Z | SCREW |
| 99 | PQ21680B-11 | MAIN DECK ASSEMBLY |

## 5.4 ELECTRICAL PARTS LIST

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### MAIN BOARD ASSEMBLY <03>

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|---|
| | PWBA | PB10923B-01 | MAIN BOARD ASSY,S5200U |
| | | PB10923C-01 | MAIN BOARD ASSY,S7200U |
| | OTH1 | PQ46408-1-2 | SENSOR CAP,X2 Q602 Q603 |
| ⚠ | CR801 | PECA0962 | CAPRISTOR |
| ⚠ | TU1001 | PERF0204 | TUNER UNIT |
| | IC1 | JCP0056 | IC |
| | IC2 | AN3969K | IC |
| | IC3 | BA6138 | IC |
| ⚠ | IC101 | XRA7795LS | IC |
| ⚠ | | or BA7795LS | IC |
| | IC301 | UPD6459CS-501 | IC (OSD) |
| | | or UPD6459ACS-501 | IC (OSD) |
| | IC351 | MM1117XS | IC |
| | IC352 | BA7623F | IC |
| | IC401 | BU2881AS | IC |
| | IC451 | BA7039 | IC |
| | | or XRA7039 | IC |
| | IC501 | S-1460BF-B10 | SOP IC (MCU) |
| | | or S-1460BF-B10-W | SOP IC (MCU) |
| | | or S-14P60AF-B10 | IC |
| | IC601 | HD6433928TA06F | QFP IC (MCU) |
| | IC602 | XLJ93LC56A | IC |
| | | or AT93C56-10PC | IC |
| | | or 93LC56/P | IC |
| | | or 93LC56B/P | IC |
| | IC603 | S-80728AN-Z | IC |
| | | or RE5VA28A | IC |
| | | or RE5VL28A | IC |
| | IC604 | TA7291S | IC |
| | IC607 | M50253P | IC |
| | | or BU2090 | IC |
| | IC608 | M66007P | IC |
| | IC751 | M37470M3-053SP | IC |
| | Q51 | 2SD1450S,T | TRANSISTOR |
| | Q52 | 2SC3311A(RS) | TRANSISTOR |
| | Q101 | DTC114EU | TRANSISTOR |
| | Q131 | 2SC4081(RS) | TRANSISTOR |
| | Q132 | 2SA933S(RS) | TRANSISTOR |
| | Q133 | 2SA933S(RS) | TRANSISTOR |
| | Q134 | 2SC4081(RS) | TRANSISTOR |
| | Q135 | 2SA933S(RS) | TRANSISTOR |
| | Q201 | 2SC4081(QRS) | TRANSISTOR |
| | Q202 | 2SA1576(QRS) | TRANSISTOR |
| | Q203 | 2SC4081(QRS) | TRANSISTOR |
| | Q221 | 2SC4081(QRS) | TRANSISTOR |
| | Q222 | 2SC4081(QRS) | TRANSISTOR |
| | Q223 | 2SC4081(QRS) | TRANSISTOR |
| | Q241 | DTC144EU | TRANSISTOR |
| | Q242 | 2SC4081(QRS) | TRANSISTOR |
| | Q243 | 2SC4081(QRS) | TRANSISTOR |
| | Q261 | DTC144EU | TRANSISTOR |
| | Q262 | DTC124EU | TRANSISTOR |
| | Q263 | DTC124EU | TRANSISTOR |
| | Q264 | DTC124EU | TRANSISTOR |
| | Q281 | DTC124EU | TRANSISTOR |
| | Q282 | DTA124EU | TRANSISTOR |
| | Q301 | 2SA1576(QRS) | TRANSISTOR |
| | Q302 | 2SC4081(QRS) | TRANSISTOR |
| | Q351 | 2SA1576(QRS) | TRANSISTOR |
| | Q352 | 2SC4081(QRS) | TRANSISTOR |
| | Q401 | DTC114EU | TRANSISTOR |
| | Q501 | 2SB1256 | TRANSISTOR |
| | Q601 | 2SC4081(QRS) | TRANSISTOR |
| | Q602 | PN268VI | PHOTO TRANSISTOR |
| | Q603 | PN268VI | PHOTO TRANSISTOR |
| | Q604 | DTC124EU | TRANSISTOR |
| | Q605 | DTC124EU | TRANSISTOR |
| | Q606 | DTC143EU | TRANSISTOR |
| | Q607 | DTC124EU | TRANSISTOR |
| | Q608 | DTC124EU | TRANSISTOR |
| | Q609 | DTC124EU | TRANSISTOR |
| | Q801 | 2SK1445-CB14 | FE TRANSISTOR |
| | | or 2SK1976-F44 | FE TRANSISTOR |
| | | or 2SK2123-LT | FE TRANSISTOR |
| | Q802 | 2SC3616(ML) | TRANSISTOR |
| | Q851 | 2SC1740S(RS) | TRANSISTOR |
| | Q881 | 2SC3616(MLK) | TRANSISTOR |
| | Q882 | 2SD1913(RS) | TRANSISTOR |
| | Q883 | 2SC4081(R) | TRANSISTOR |
| | Q884 | DTA114EU | TRANSISTOR |
| | Q885 | DTC143TU | TRANSISTOR |
| | Q886 | 2SB1256 | TRANSISTOR |
| | Q1001 | 2SC3243D,E | TRANSISTOR |
| | Q1021 | DTC144EU | TRANSISTOR |
| | Q1022 | 2SC4081(RS) | TRANSISTOR |
| | Q1023 | 2SC4081(RS) | TRANSISTOR |
| | Q1024 | 2SA1576(RS) | TRANSISTOR |
| | Q1025 | 2SC4081(RS) | TRANSISTOR |
| | D101 | RD6.2ES-T1B2 | ZENER DIODE |
| | D102 | DAP202U | DIODE |
| | D262 | 1SS133 | DIODE |
| | | or 1N4148M | DIODE |
| | | or MA165 | DIODE |
| | D264 | 1SS133 | DIODE |
| | | or 1N4148M | DIODE |
| | | or MA165 | DIODE |
| | D283 | 1SS133 | DIODE |
| | | or MA165 | DIODE |
| | | or 1N4148M | DIODE |
| | D451 | 1SS133 | DIODE |
| | | or MA165 | DIODE |
| | | or 1N4148M | DIODE |
| | D601 | 11ES2 | DIODE |
| | D602 | 11ES2 | DIODE |
| | D603 | RD9.1ES-T1B2 | ZENER DIODE |
| | D604 | 1SS133 | DIODE |
| | | or MA165 | DIODE |
| | | or 1N4148M | DIODE |
| | D605 | 1SS133 | DIODE |
| | | or 1N4148M | DIODE |
| | | or MA165 | DIODE |
| | D606 | 1SS133 | DIODE |
| | | or MA165 | DIODE |
| | | or 1N4148M | DIODE |
| | D607 | 1SS133 | DIODE |
| | | or 1N4148M | DIODE |
| | | or MA165 | DIODE |
| | D608 | 1SS133 | DIODE |
| | | or MA165 | DIODE |
| | | or 1N4148M | DIODE |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| D609 | SIR-381SB3FM | LE DIODE | |
| D610 | RB721Q | DIODE | |
| D611 | RB721Q | DIODE | |
| D612 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| | or 1N4148M | DIODE | |
| D613 | 1SS133 | DIODE | |
| | or 1N4148M | DIODE | |
| | or MA165 | DIODE | |
| D614 | 1SS133 | DIODE | |
| | or 1N4148M | DIODE | |
| | or MA165 | DIODE | |
| D615 | 1SS133 | DIODE | |
| | or 1N4148M | DIODE | |
| | or MA165 | DIODE | |
| D801 | 10E6-F2 | DIODE | |
| D802 | 10E6-F2 | DIODE | |
| D803 | 10E6-F2 | DIODE | |
| D804 | 10E6-F2 | DIODE | |
| D807 | RD15ES-T1B3 | ZENER DIODE | |
| | or UZ15BSC | DIODE | |
| D808 | 1N4148M | DIODE | |
| | or 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D851 | 1SR153-200-T1 | FR DIODE | |
| D852 | RL2Z-LFB2 | FR DIODE | |
| D853 | RL2Z-LFB2 | FR DIODE | |
| D856 | 21DQ04 | BARRIER DIODE | |
| | or RK14LF-B2 | BARRIER DIODE | |
| D857 | AU01Z | FR DIODE | |
| | or 1SR153-200-T2 | FR DIODE | |
| | or ERA18-02-T2 | FR DIODE | |
| D858 | 1SR153-200-T1 | FR DIODE | |
| D860 | RD15ES-T1B1 | ZENER DIODE | |
| | or UZ15BSA | DIODE | |
| D861 | RD6.2ES-T1B3 | ZENER DIODE | |
| | or UZ6.2BSC | ZENER DIODE | |
| | or MTZV6.2C | ZENER DIODE | |
| D862 | RD30ES-T1B1 | ZENER DIODE | |
| | or MTZ30AT-77 | ZENER DIODE | |
| | or UZ30BSA | ZENER DIODE | |
| D863 | 1SR153-200-T1 | FR DIODE | |
| D882 | RD5.1JSB1 | ZENER DIODE | |
| D883 | 1N4148M | DIODE | |
| | or 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D885 | 11ES2 | DIODE | |
| | or ERA15-02 | DIODE | |
| D1001 | HZ30-2L-T2 | ZENER DIODE | |
| D1002 | MTZ10B | ZENER DIODE | |
| D1003 | QRD161J-0R0 | RESISTOR | 0Ω,1/6W |
| D1021 | 1SS133 | DIODE | |
| | or 1N4148M | DIODE | |
| | or MA165 | DIODE | |
| D1022 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| | or 1N4148M | DIODE | |
| R1 | QRSA08J-511YN | RESISTOR | 510Ω,1/10W |
| R2 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R3 | QRSA08J-123YN | RESISTOR | 12kΩ,1/10W |
| R4 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| R5 | NRVA62B-153N | RESISTOR | 15kΩ,1/16W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R6 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R7 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R8 | QRSA08J-334YN | RESISTOR | 330kΩ,1/10W |
| R9 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R10 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R11 | NRVA62B-113N | RESISTOR | 11kΩ,1/16W |
| R12 | QRSA08J-123YN | RESISTOR | 12kΩ,1/10W |
| R13 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R14 | QRSA08J-511YN | RESISTOR | 510Ω,1/10W |
| R25 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R26 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R28 | QRSA08J-332YN | RESISTOR | 3.3kΩ,1/10W |
| R29 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| R30 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| R31 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| R32 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R33 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R51 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R52 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R53 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| R61 | QRSA08J-393YN | RESISTOR | 39kΩ,1/10W |
| R62 | QRSA08J-183YN | RESISTOR | 18kΩ,1/10W |
| R63 | QRSA08J-183YN | RESISTOR | 18kΩ,1/10W |
| R64 | QRSA08J-393YN | RESISTOR | 39kΩ,1/10W |
| R65 | QRSA08J-683YN | RESISTOR | 68kΩ,1/10W |
| R66 | QRSA08J-183YN | RESISTOR | 18kΩ,1/10W |
| R67 | QVPA606-104Z | V RESISTOR,AUDIO LEVEL | |
| R68 | QRSA08J-393YN | RESISTOR | 39kΩ,1/10W |
| R69 | QRSA08J-183YN | RESISTOR | 18kΩ,1/10W |
| R70 | QRSA08J-183YN | RESISTOR | 18kΩ,1/10W |
| R71 | QRSA08J-393YN | RESISTOR | 39kΩ,1/10W |
| R81 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R82 | QRSA08J-104YN | RESISTOR | 100kΩ,1/10W |
| R83 | QRSA08J-104YN | RESISTOR | 100kΩ,1/10W |
| R84 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R102 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R103 | QRSA08J-123YN | RESISTOR | 12kΩ,1/10W |
| R104 | QRSA08J-432YN | RESISTOR | 4.3kΩ,1/10W |
| R105 | QRSA08J-273YN | RESISTOR | 27kΩ,1/10W |
| R106 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R107 | QRSA08J-822YN | RESISTOR | 8.2kΩ,1/10W |
| R108 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R109 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R110 | QRSA08J-273YN | RESISTOR | 27kΩ,1/10W |
| R111 | QRSA08J-181YN | RESISTOR | 180Ω,1/10W |
| R112 | QRSA08J-822YN | RESISTOR | 8.2kΩ,1/10W |
| R113 | QRSA08J-682YN | RESISTOR | 6.8kΩ,1/10W |
| R114 | QRSA08J-475YN | RESISTOR | 4.7MΩ,1/10W |
| R115 | QRD161J-221 | RESISTOR | 220Ω,1/6W |
| R116 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R117 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R118 | QRSA08J-274YN | RESISTOR | 270kΩ,1/10W |
| R119 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R120 | QRD161J-103 | RESISTOR | 10kΩ,1/6W |
| R131 | QRSA08J-473YN | RESISTOR | 47kΩ,1/10W |
| R132 | QRSA08J-562YN | RESISTOR | 5.6kΩ,1/10W |
| R133 | QRSA08J-682YN | RESISTOR | 6.8kΩ,1/10W |
| R134 | QRSA08J-153YN | RESISTOR | 15kΩ,1/10W |
| R135 | QRSA08J-3R3YN | RESISTOR | 3.3Ω,1/10W |
| R136 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R137 | QRSA08J-183YN | RESISTOR | 18kΩ,1/10W |
| R138 | QRSA08J-473YN | RESISTOR | 47kΩ,1/10W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R139 | QRSA08J-273YN | RESISTOR | 27kΩ,1/10W |
| R140 | QRSA08J-473YN | RESISTOR | 47kΩ,1/10W |
| R141 | QRD161J-101 | RESISTOR | 100Ω,1/6W |
| R142 | QRSA08J-153YN | RESISTOR | 15kΩ,1/10W |
| R143 | QRD161J-151 | RESISTOR | 150Ω,1/6W |
| R144 | QRSA08J-3R3YN | RESISTOR | 3.3Ω,1/10W |
| R145 | QRSA08J-473YN | RESISTOR | 47kΩ,1/10W |
| R146 | QRSA08J-183YN | RESISTOR | 18kΩ,1/10W |
| R201 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R202 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R203 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R204 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R205 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R206 | QRSA08J-182YN | RESISTOR | 1.8kΩ,1/10W |
| R207 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R208 | QRSA08J-182YN | RESISTOR | 1.8kΩ,1/10W |
| R209 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R221 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R223 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R224 | QRSA08J-153YN | RESISTOR | 15kΩ,1/10W |
| R225 | QRSA08J-153YN | RESISTOR | 15kΩ,1/10W |
| R226 | QRSA08J-821YN | RESISTOR | 820Ω,1/10W |
| R227 | QRSA08J-152YN | RESISTOR | 1.5kΩ,1/10W |
| R229 | QRSA08J-272YN | RESISTOR | 2.7kΩ,1/10W |
| R231 | QRSA08J-301YN | RESISTOR | 300Ω,1/10W |
| R241 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R242 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R243 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R244 | QRSA08J-153YN | RESISTOR | 15kΩ,1/10W |
| R245 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R246 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R247 | QRSA08J-123YN | RESISTOR | 12kΩ,1/10W |
| R248 | QRSA08J-822YN | RESISTOR | 8.2kΩ,1/10W |
| R249 | QRSA08J-270YN | RESISTOR | 27Ω,1/10W |
| R250 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| R251 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R252 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| R253 | QRSA08J-122YN | RESISTOR | 1.2kΩ,1/10W |
| R261 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R264 | QRSA08J-183YN | RESISTOR | 18kΩ,1/10W |
| R265 | QRD161J-333 | RESISTOR | 33kΩ,1/6W |
| R266 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R268 | QRSA08J-272YN | RESISTOR | 2.7kΩ,1/10W |
| R269 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R270 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R271 | QRD161J-393 | RESISTOR | 39kΩ,1/6W |
| R282 | QRSA08J-562YN | RESISTOR | 5.6kΩ,1/10W |
| R283 | QRSA08J-333YN | RESISTOR | 33kΩ,1/10W |
| R284 | QRSA08J-562YN | RESISTOR | 5.6kΩ,1/10W |
| R301 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| R302 | QRSA08J-680YN | RESISTOR | 68Ω,1/10W |
| R303 | QRSA08J-223YN | RESISTOR | 22kΩ,1/10W |
| R305 | QRSA08J-563YN | RESISTOR | 56kΩ,1/10W |
| R306 | QRSA08J-224YN | RESISTOR | 220kΩ,1/10W |
| R307 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R308 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R309 | QVPA606-333Z | V RESISTOR,Fh | |
| R310 | QRSA08J-154YN | RESISTOR | 150kΩ,1/10W |
| R311 | QRSA08J-822YN | RESISTOR | 8.2kΩ,1/10W |
| R312 | QRSA08J-682YN | RESISTOR | 6.8kΩ,1/10W |
| R313 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R314 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R315 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R316 | QRSA08J-105YN | RESISTOR | 1MΩ,1/10W |
| R317 | QRSA08J-473YN | RESISTOR | 47kΩ,1/10W |
| R318 | QRSA08J-153YN | RESISTOR | 15kΩ,1/10W |
| R319 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R320 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R321 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R322 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R351 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R352 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R353 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R355 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R357 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R359 | QRSA08J-750YN | RESISTOR | 75Ω,1/10W |
| R363 | QRSA08J-332YN | RESISTOR | 3.3kΩ,1/10W |
| R364 | QRSA08J-333YN | RESISTOR | 33kΩ,1/10W |
| R366 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R367 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R368 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R369 | QRSA08J-821YN | RESISTOR | 820Ω,1/10W |
| R370 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R371 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R373 | QRSA08J-562YN | RESISTOR | 5.6kΩ,1/10W |
| R375 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R401 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R402 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R403 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R404 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R405 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R406 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R408 | QRSA08J-562YN | RESISTOR | 5.6kΩ,1/10W |
| R409 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R410 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R411 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R412 | QRSA08J-562YN | RESISTOR | 5.6kΩ,1/10W |
| R413 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R414 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R415 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R418 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R451 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R452 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| R453 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R454 | QRSA08J-123YN | RESISTOR | 12kΩ,1/10W |
| R455 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R456 | QRSA08J-154YN | RESISTOR | 150kΩ,1/10W |
| R458 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R501 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R502 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R503 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R504 | QRG01DJ-100X | RESISTOR | 10Ω,1W |
| R506 | QRSA08J-105YN | RESISTOR | 1MΩ,1/10W |
| R601 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R602 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R603 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R604 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R605 | QRSA08J-105YN | RESISTOR | 1MΩ,1/10W |
| R606 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R607 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R608 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R609 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R611 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R612 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R613 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R614 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R615 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R616 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R617 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R618 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R619 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R621 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R622 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R623 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R624 | QRSA08J-332YN | RESISTOR | 3.3kΩ,1/10W |
| R625 | QRSA08J-332YN | RESISTOR | 3.3kΩ,1/10W |
| R626 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R627 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R629 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R630 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R631 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R632 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R633 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R634 | QRSA08J-152YN | RESISTOR | 1.5kΩ,1/10W |
| R635 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R636 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R637 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R638 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R639 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R641 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R642 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R643 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R644 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R645 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R646 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R647 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R648 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R649 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R650 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R651 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R652 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R654 | QRSA08J-272YN | RESISTOR | 2.7kΩ,1/10W |
| R655 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R657 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R658 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R659 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R660 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R661 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R662 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R663 | QRSA08J-152YN | RESISTOR | 1.5kΩ,1/10W |
| R664 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R665 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R666 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R667 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R668 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R669 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R670 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R671 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R672 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R673 | QRSA08J-104YN | RESISTOR | 100kΩ,1/10W |
| R674 | QRSA08J-682YN | RESISTOR | 6.8kΩ,1/10W |
| R675 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R676 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R682 | QRSA08J-822YN | RESISTOR | 8.2kΩ,1/10W |
| R684 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R685 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R686 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R687 | QRD161J-750 | RESISTOR | 75Ω,1/6W |
| R688 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R689 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R690 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R691 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R692 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R693 | QRSA08J-333YN | RESISTOR | 33kΩ,1/10W |
| R694 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R695 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R696 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R697 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| R699 | QRSA08J-104YN | RESISTOR | 100kΩ,1/10W |
| R701 | QRSA08J-104YN | RESISTOR | 100kΩ,1/10W |
| R704 | QRSA08J-473YN | RESISTOR | 47kΩ,1/10W |
| R705 | QRSA08J-333YN | RESISTOR | 33kΩ,1/10W |
| R706 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R707 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R708 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R709 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R710 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R711 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R712 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R714 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R715 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R716 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R717 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R718 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R719 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R720 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R721 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R722 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R723 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R724 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R725 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R726 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R727 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R751 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R752 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R753 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R754 | QRSA08J-105YN | RESISTOR | 1MΩ,1/10W |
| R755 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R756 | QRSA08J-104YN | RESISTOR | 100kΩ,1/10W |
| R757 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R758 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R760 | QRSA08J-223YN | RESISTOR | 22kΩ,1/10W |
| R761 | QRSA08J-223YN | RESISTOR | 22kΩ,1/10W |
| R762 | QRSA08J-223YN | RESISTOR | 22kΩ,1/10W |
| R763 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R764 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R765 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R776 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R777 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R778 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R804 | QRD161J-683 | RESISTOR | 68kΩ,1/6W |
| R805 | QRD161J-683 | RESISTOR | 68kΩ,1/6W |
| R808 | QRX014J-R27Z | MF RESISTOR | 0.27Ω,1W |
| R810 | QRG019J-331A | OMF RESISTOR | 330Ω,1W |
| R811 | QRD161J-152 | RESISTOR | 1.5kΩ,1/6W |
| R814 | QRD161J-561 | RESISTOR | 560Ω,1/6W |
| R815 | QRD161J-473 | RESISTOR | 47kΩ,1/6W |
| R816 | QRD161J-224 | RESISTOR | 220kΩ,1/6W |

| #△ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | R851 | QRX014J-4R7Z | MF RESISTOR | 4.7Ω,1W |
| △ | R852 | QRZ0077-470X | FUSIBLE RESISTOR | 47Ω,1/4W |
| | R853 | QRG02DJ-222X | OMF RESISTOR | 2.2kΩ,2W |
| | R854 | QRV144F-4870AY | CMF RESISTOR | 487Ω,1/4W |
| | R855 | QRD161J-471 | RESISTOR | 470Ω,1/6W |
| | R856 | QRV144F-3740AY | CMF RESISTOR | 374Ω,1/4W |
| | R857 | QRD161J-122 | RESISTOR | 1.2kΩ,1/6W |
| | R881 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| | R882 | QRD161J-473 | RESISTOR | 47kΩ,1/6W |
| | R883 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| | R884 | QRD161J-471 | RESISTOR | 470Ω,1/6W |
| | R885 | QVPA606-471Z | V RESISTOR,SWD 5V | |
| | R886 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| | R888 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| | R891 | QRD161J-102 | RESISTOR | 1kΩ,1/6W |
| | R896 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| | R897 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| | R1005 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| | R1006 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| | R1007 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| | R1008 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| | R1009 | QRSA08J-271YN | RESISTOR | 270Ω,1/10W |
| | R1012 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| | R1021 | QRSA08J-122YN | RESISTOR | 1.2kΩ,1/10W |
| | R1022 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| | R1023 | QRSA08J-184YN | RESISTOR | 180kΩ,1/10W |
| | R1024 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| | R1025 | QRSA08J-822YN | RESISTOR | 8.2kΩ,1/10W |
| | R1026 | QRSA08J-122YN | RESISTOR | 1.2kΩ,1/10W |
| | R1027 | QRSA08J-223YN | RESISTOR | 22kΩ,1/10W |
| | R1028 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| | R1029 | QRSA08J-223YN | RESISTOR | 22kΩ,1/10W |
| | R1030 | QRSA08J-223YN | RESISTOR | 22kΩ,1/10W |
| | R1031 | QRSA08J-123YN | RESISTOR | 12kΩ,1/10W |
| | R1032 | QRSA08J-822YN | RESISTOR | 8.2kΩ,1/10W |
| | R1033 | QRSA08J-682YN | RESISTOR | 6.8kΩ,1/10W |
| | R1034 | QRSA08J-332YN | RESISTOR | 3.3kΩ,1/10W |
| | C1 | QEKF1AM-336 | E CAPACITOR | 33μF,10V |
| | C2 | QCYA1CK-473 | CAPACITOR | 0.047μF,16V |
| | C3 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C4 | QEKF1AM-107 | E CAPACITOR | 100μF,10V |
| | C5 | QCYA1EK-153 | CAPACITOR | 0.015μF,25V |
| | C6 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C7 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| | C8 | QETA1AM-107 | E CAPACITOR | 100μF,10V |
| | C9 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| | C12 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C13 | QCYA1EK-473 | CAPACITOR | 0.047μF,25V |
| | C14 | QEKF1HM-224 | E CAPACITOR | 0.22μF,50V |
| | C15 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| | C16 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C17 | QEKF1AM-107 | E CAPACITOR | 100μF,10V |
| | C18 | QCYA1EK-153 | CAPACITOR | 0.015μF,25V |
| | C19 | QEKF1AM-107 | E CAPACITOR | 100μF,10V |
| | C20 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C21 | QCYA1CK-473 | CAPACITOR | 0.047μF,16V |
| | C22 | QEKF1AM-336 | E CAPACITOR | 33μF,10V |
| | C24 | QEKF1CM-476 | E CAPACITOR | 47μF,16V |
| | C25 | QCC11EK-473 | CAPACITOR | 0.047μF,25V |
| | C27 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C28 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C29 | QEKF1AM-107 | E CAPACITOR | 100μF,10V |

| #△ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | C35 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C36 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C38 | QEKF1CM-476 | E CAPACITOR | 47μF,16V |
| | C39 | QEKF1CM-476 | E CAPACITOR | 47μF,16V |
| | C51 | QETC1CM-476 | E CAPACITOR | 47μF,16V |
| | C52 | QETA1CM-476 | E CAPACITOR | 47μF,16V |
| | C61 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C62 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C63 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C64 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C65 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C66 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C67 | QEKF1CM-476 | E CAPACITOR | 47μF,16V |
| | C68 | QEKF1CM-476 | E CAPACITOR | 47μF,16V |
| | C69 | QCYA1HK-393 | CAPACITOR | 0.039μF,50V |
| | C72 | QCC11EK-104 | CAPACITOR | 0.1μF,25V |
| | C81 | QEKF1HM-475 | E CAPACITOR | 4.7μF,50V |
| | C82 | QEKF1HM-475 | E CAPACITOR | 4.7μF,50V |
| | C83 | QEKF1CM-476 | E CAPACITOR | 47μF,16V |
| | C84 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| | C85 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C101 | QCSA1HJ-222 | CAPACITOR | 0.0022μF,50V |
| | C102 | QERF1CM-476 | E CAPACITOR | 47μF,16V |
| | C104 | QERF1HM-105 | E CAPACITOR | 1μF,50V |
| | C105 | QCC11EJ-682 | CAPACITOR | 0.0068μF,25V |
| | C106 | QCC11EJ-223 | CAPACITOR | 0.022μF,25V |
| | C107 | QEK61HM-475 | E CAPACITOR | 4.7μF,50V |
| | C108 | QCSA1HJ-681 | CAPACITOR | 680pF,50V |
| | C109 | QCYA1EK-123 | CAPACITOR | 0.012μF,25V |
| | C110 | QEKF1CM-226 | E CAPACITOR | 22μF,16V |
| | C111 | QEKF1HM-104 | E CAPACITOR | 0.1μF,50V |
| | C112 | QEKF1CM-226 | E CAPACITOR | 22μF,16V |
| | C113 | QETF1HM-335 | E CAPACITOR | 3.3μF,50V |
| | C114 | QCC31EJ-273 | CAPACITOR | 0.027μF,25V |
| | C115 | QEKF1CM-476 | E CAPACITOR | 47μF,16V |
| | C131 | QCSA1HJ-331 | CAPACITOR | 330pF,50V |
| | C132 | QFLC1HJ-333Z | F CAPACITOR | 0.033μF,50V |
| | C133 | QEKF1HM-225 | E CAPACITOR | 2.2μF,50V |
| | C134 | QCYA1HK-472 | CAPACITOR | 0.0047μF,50V |
| | C135 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C136 | QFLC1HJ-333Z | F CAPACITOR | 0.033μF,50V |
| | C137 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C138 | QCYA1HK-332 | CAPACITOR | 0.0033μF,50V |
| | C139 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C201 | QCSA1HJ-820 | CAPACITOR | 82pF,50V |
| | C202 | QCSA1HJ-101 | CAPACITOR | 100pF,50V |
| | C203 | QCSA1HJ-200 | CAPACITOR | 20pF,50V |
| | C204 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C205 | QEKF0JM-476 | E CAPACITOR | 47μF,6.3V |
| | C206 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| | C222 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C223 | QCSA1HJ-330 | CAPACITOR | 33pF,50V |
| | C224 | QCYA1HK-473 | CAPACITOR | 0.047μF,50V |
| | C226 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C227 | QEK60JM-476 | E CAPACITOR | 47μF,6.3V |
| | C228 | QETA1CM-106 | E CAPACITOR | 10μF,16V |
| | C229 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| | C241 | QEK60JM-476 | E CAPACITOR | 47μF,6.3V |
| | C242 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C243 | QCSA1HJ-390 | CAPACITOR | 39pF,50V |
| | C244 | QCSA1HJ-151 | CAPACITOR | 150pF,50V |
| | C245 | QCSA1HJ-151 | CAPACITOR | 150pF,50V |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | C246 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C247 | QCSA1HJ-390 | CAPACITOR | 39pF,50V |
| | C248 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C249 | QCSA1HJ-821 | CAPACITOR | 820pF,50V |
| | C250 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C261 | QEKF0JM-476 | E CAPACITOR | 47μF,6.3V |
| | C262 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C264 | QCSA1HJ-470 | CAPACITOR | 47pF,50V |
| | C265 | QCTA1CH-330 | CAPACITOR | 33pF,16V |
| | C266 | QCSA1HJ-150 | CAPACITOR | 15pF,50V |
| | C267 | QCBB1HJ-101 | CAPACITOR | 100pF,50V |
| | C281 | QCTA1CH-510 | CAPACITOR | 51pF,16V |
| | C282 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C283 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C301 | QCSA1HJ-101 | CAPACITOR | 100pF,50V |
| | C302 | QCSA1HJ-271 | CAPACITOR | 270pF,50V |
| | C303 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| | C304 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C305 | QEKF1HM-105 | E CAPACITOR | 1μF,50V |
| | C306 | QCYA1HK-472 | CAPACITOR | 0.0047μF,50V |
| | C307 | QCTA1CH-101 | CAPACITOR | 100pF,16V |
| | C308 | QCSA1HJ-221 | CAPACITOR | 220pF,50V |
| | C309 | QEKF1HM-335 | E CAPACITOR | 3.3μF,50V |
| | C310 | QEKF1HM-105 | E CAPACITOR | 1μF,50V |
| | C311 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C312 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C313 | QCVB1CN-103 | CAPACITOR | 0.01μF,16V |
| | C314 | QCTA1CH-220 | CAPACITOR | 22pF,16V |
| | C315 | QCTA1CH-330 | CAPACITOR | 33pF,16V |
| | C316 | QCTA1CH-270 | CAPACITOR | 27pF,16V |
| | C317 | QCTA1CH-270 | CAPACITOR | 27pF,16V |
| | C318 | QCTA1CH-220 | CAPACITOR | 22pF,16V |
| | C319 | QCSA1HJ-101 | CAPACITOR | 100pF,50V |
| | C320 | QCTA1CH-220 | CAPACITOR | 22pF,16V |
| | C321 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C351 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| | C352 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| | C353 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| | C354 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| | C355 | QETN0JM-108ZS | E CAPACITOR | 1000μF,6.3V |
| | C356 | QETN0JM-108ZS | E CAPACITOR | 1000μF,6.3V |
| | C357 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C359 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C360 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| | C361 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C362 | QCSA1HJ-150 | CAPACITOR | 15pF,50V |
| | C363 | QEKF0JM-107 | E CAPACITOR | 100μF,6.3V |
| | C364 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C365 | QCFA1HZ-103 | CAPACITOR | 0.01μF,50V |
| | C367 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C371 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C401 | QCYA1HK-102 | CAPACITOR | 0.001μF,50V |
| | C402 | QCYA1HK-102 | CAPACITOR | 0.001μF,50V |
| | C403 | QCYA1EK-563 | CAPACITOR | 0.056μF,25V |
| | C404 | QCSA1HJ-101 | CAPACITOR | 100pF,50V |
| | C405 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C406 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C407 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C408 | QEKF0JM-107 | E CAPACITOR | 100μF,6.3V |
| | C409 | QCYA1HK-223 | CAPACITOR | 0.022μF,50V |
| | C411 | QCYA1HK-222 | CAPACITOR | 0.0022μF,50V |
| | C412 | QCYA1CK-104 | CAPACITOR | 0.1μF,16V |
| | C413 | QCY81CK-105 | CAPACITOR | 1μF,16V |
| | C414 | QCYA1HK-102 | CAPACITOR | 0.001μF,50V |
| | C415 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C416 | QCYA1HK-102 | CAPACITOR | 0.001μF,50V |
| | C417 | QCSA1HJ-680 | CAPACITOR | 68pF,50V |
| | C451 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C452 | QCC31CK-104 | CAPACITOR | 0.1μF,16V |
| | C453 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C454 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C455 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C456 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C458 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C459 | QFV11HJ-563AZ | F CAPACITOR | 0.056μF,50V |
| | C501 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C502 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C503 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| | C504 | QCTA1CH-101 | CAPACITOR | 100pF,16V |
| | C505 | QCTA1CH-101 | CAPACITOR | 100pF,16V |
| | C506 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C507 | QETC0JM-477 | E CAPACITOR | 470μF,6.3V |
| | C601 | QAT3120-450Z | TRIM CAPACITOR,TIMER CLOCK | |
| | C602 | QCTA1CH-180 | CAPACITOR | 18pF,16V |
| | C604 | QEKF1AM-107 | E CAPACITOR | 100μF,10V |
| | C607 | QCSA1HJ-471 | CAPACITOR | 470pF,50V |
| | C610 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C611 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C612 | PU60676-223 | E CAPACITOR,S5200U | 0.022μF,5.5V |
| | | PU60676-224 | E CAPACITOR,S7200U | 0.22μF,5.5V |
| | C613 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C614 | QCYA1CK-473 | CAPACITOR | 0.047μF,16V |
| | C616 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C617 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C622 | QEKF0JM-107 | E CAPACITOR | 100μF,6.3V |
| | C623 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| | C624 | QCSA1HJ-101 | CAPACITOR | 100pF,50V |
| | C635 | QCSA1HJ-470 | CAPACITOR | 47pF,50V |
| | C636 | QCSA1HJ-470 | CAPACITOR | 47pF,50V |
| | C651 | QCSA1HJ-102 | CAPACITOR | 0.001μF,50V |
| | C652 | QCYA1HK-473 | CAPACITOR | 0.047μF,50V |
| | C653 | QCT30CH-100 | CAPACITOR | 10pF |
| | C654 | QCT30CH-100 | CAPACITOR | 10pF |
| | C751 | QCSA1HJ-220 | CAPACITOR | 22pF,50V |
| | C752 | QCYA1HK-102 | CAPACITOR | 0.001μF,50V |
| | C753 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| | C754 | QCSA1HJ-220 | CAPACITOR | 22pF,50V |
| | C755 | QCSA1HJ-220 | CAPACITOR | 22pF,50V |
| | C756 | QCSA1HJ-220 | CAPACITOR | 22pF,50V |
| | C757 | QCSA1HJ-470 | CAPACITOR | 47pF,50V |
| | C758 | QCSA1HJ-470 | CAPACITOR | 47pF,50V |
| | C759 | QCSA1HJ-470 | CAPACITOR | 47pF,50V |
| | C760 | QEKF1HM-335 | E CAPACITOR | 3.3μF,50V |
| | C761 | QCSA1HJ-101 | CAPACITOR | 100pF,50V |
| | C762 | QCSA1HJ-101 | CAPACITOR | 100pF,50V |
| | C763 | QCSA1HJ-101 | CAPACITOR | 100pF,50V |
| | C764 | QCBB1HJ-471 | CAPACITOR | 470pF,50V |
| ⚠ | C802 | QFZ9037-473 | F CAPACITOR | 0.047μF |
| ⚠ | C809 | QCZ9016-222M | CAPACITOR | 0.0022μF |
| | C810 | QETM2DM-826R | E CAPACITOR | 82μF,200V |
| | C812 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| | C814 | QCZ0136-101Z | CAPACITOR | 100pF,1kV |
| | C816 | QFLA1HJ-103Z | F CAPACITOR | 0.01μF,50V |
| | C821 | QFV11HJ-104 | F CAPACITOR | 0.1μF,50V |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | C851 | QETC1JM-226 | E CAPACITOR | 22μF,63V |
| | C852 | QEM91CM-827 | E CAPACITOR | 820μF,16V |
| | C853 | QEM91AM-128 | E CAPACITOR | 1200μF,10V |
| | C854 | QETA1HM-226 | E CAPACITOR | 22μF,50V |
| | C855 | QEMR1AM-107 | E CAPACITOR | 100μF,10V |
| | C856 | QETC1AM-477 | E CAPACITOR | 470μF,10V |
| | C857 | QETC1CM-477 | E CAPACITOR | 470μF,16V |
| | C858 | QEK61HM-474 | E CAPACITOR | 0.47μF,50V |
| | C859 | QFLA1HJ-103Z | F CAPACITOR | 0.01μF,50V |
| | C861 | QEM91EM-337 | E CAPACITOR | 330μF,25V |
| | C881 | QETF0JM-107 | E CAPACITOR | 100μF,6.3V |
| | C882 | QEK61CM-106 | E CAPACITOR | 10μF,16V |
| | C883 | QETC1CM-107 | E CAPACITOR | 100μF,16V |
| | C1001 | QEKF1CM-476 | E CAPACITOR | 47μF,16V |
| | C1002 | QCYA1HK-222 | CAPACITOR | 0.0022μF,50V |
| | C1003 | QEKF1HM-106 | E CAPACITOR | 10μF,50V |
| | C1005 | QETC1AM-477 | E CAPACITOR | 470μF,10V |
| | C1006 | QEKF1CM-476 | E CAPACITOR | 47μF,16V |
| | C1007 | QFV21HJ-154AZ | F CAPACITOR | 0.15μF,50V |
| | C1021 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C1022 | QEKF1HM-104 | E CAPACITOR | 0.1μF,50V |
| | C1023 | QCTA1CH-471 | CAPACITOR | 470pF,16V |
| | C1024 | QCSA1HJ-471 | CAPACITOR | 470pF,50V |
| | C1025 | QCYA1EK-223 | CAPACITOR | 0.022μF,25V |
| | C1026 | QEKF1HM-474 | E CAPACITOR | 0.47μF,50V |
| | C1027 | QEKF1CM-476 | E CAPACITOR | 47μF,16V |
| | C1028 | QCYA1CK-104 | CAPACITOR | 0.1μF,16V |
| | C1029 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | L101 | PU58308-123J | COIL | 12mH |
| | L201 | PELN0975-101JZ | COIL | 100μH |
| | L202 | PU59988-101J | COIL | 100μH |
| | L203 | PU59988-220JY | COIL | 22μH |
| | L221 | PELN0975-101JZ | COIL | 100μH |
| | L222 | PU48530-471J | COIL | 470μH |
| | L223 | PU48530-222J | COIL | 2.2mH |
| | L241 | PELN0975-101JZ | COIL | 100μH |
| | L242 | PU59988-470J | COIL | 47μH |
| | L243 | PU59988-330J | COIL | 33μH |
| | L244 | PU59988-101J | COIL | 100μH |
| | L261 | PU48530-102K | COIL | 1mH |
| | L262 | PU59988-121JY | COIL | 120μH |
| | L263 | PU59988-221J | COIL | 220μH |
| | L264 | PU59988-680JL | COIL | 68μH |
| | L281 | PU59988-390J | COIL | 39μH |
| | L282 | PU48530-100J | COIL | 10μH |
| | L301 | PU59988-1R0JY | COIL | 1μH |
| | L302 | PU59988-1R0JY | COIL | 1μH |
| | L303 | PU58333-220J | COIL | 22μH |
| | L304 | PU48530-100J | COIL | 10μH |
| | L351 | PELN0975-101JZ | COIL | 100μH |
| | L352 | PELN0975-101JZ | COIL | 100μH |
| | L353 | PU59988-820J | COIL | 82μH |
| | L401 | PU59988-270J | COIL | 27μH |
| | L451 | PU59988-270J | COIL | 27μH |
| | L501 | PU48530-101J | COIL | 100μH |
| | L502 | PU48530-101J | COIL | 100μH |
| | L601 | PU59988-R22KY | COIL | 0.22μH |
| | L602 | PU59988-100J | COIL | 10μH |
| | L603 | PU48530-100K | COIL | 10μH |
| | L604 | PU54223-100J | COIL | 10μH |
| | L605 | PU54223-100J | COIL | 10μH |
| | L851 | PELN0695-330K | COIL | 33μH |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | L852 | PELN0687 | COIL | |
| | L881 | PU48530-101K | COIL | 100μH |
| | L1001 | PELN0530-101JZ | COIL | 100μH |
| | L1002 | QRD161J-0R0 | RESISTOR | 0Ω,1/6W |
| ⚠ | CF601 | PEVB0497 | RESONATOR | |
| ⚠ | CF751 | PEVB0340 | RESONATOR | |
| ⚠ | X301 | PEVB0442 | CRYSTAL RESONATOR | |
| ⚠ | X501 | PEVB0618 | RESONATOR | |
| ⚠ | X601 | PEVB0422 | CRYSTAL RESONATOR | |
| | SW1001 | PESW0671 | SLIDE SWITCH,RF CH SW | |
| | K801 | PELN0662-Z | FERRATE BEADS | |
| ⚠ | PC801 | PC817 | PH COUPLER | |
| | PS601 | PU61433 | REEL SENSOR | |
| | PS602 | PU61433 | REEL SENSOR | |
| ⚠ | T101 | PELN0860 | OSC TRANSFORMER | |
| ⚠ | T102 | PELN0861 | OSC TRANSFORMER | |
| ⚠ | T801 | PELN0426-04 | SW TRANS | |
| | T1001 | PELN0806 | COIL | |
| | ETH1 | PQ21623-1-2 | EARTH PLATE(RF) | |
| | JA1 | PEMC1117 | PIN JACK(SW),A/V IN 1 | |
| | JA3 | PEMC1116 | PIN JACK,A/V OUT | |
| | JA4 | PEMC1118 | S JACK,S OUT | |
| | JA5 | PEMC1118 | S JACK,S IN | |
| | JA6 | PU60612 | MINI JACK,R PAUSE | |
| | JA7 | PU60612 | MINI JACK,C BOX | |
| | SCW1 | SDSF4012M | SCREW,X2 TERMINAL BOARD | |
| | SCW2 | SDSF3010Z | SCREW,X2 TERMINAL BOARD | |
| | SPC1 | PEME0947-01-01 | SPACER,X2 | |
| | SPC2 | PQM30029-250 | SPACER | |
| ⚠ | TB1 | PQ11783-2 | TERMINAL BOARD | |
| ⚠ | FC801 | PEMC0965-Z | FUSE CLIP,F801 | |
| ⚠ | FC802 | PEMC0965-Z | FUSE CLIP,F801 | |
| ⚠ | LF802 | PU59707 | LINE FILTER | |
| | CN101 | PW30701-36AAYY | WIRE,(1-2) FE HEAD | |
| | CN102 | PW30705-12AAYY | WIRE,(1-4) A/C HEAD | |
| | CN203 | PEMC1055-013 | CONNECTOR,(2-14)PRE/REC | |
| | CN204 | PEMC1055-014 | CONNECTOR,(1-14)PRE/REC | |
| | CN205 | PEMC0846-010 | CONNECTOR,(1-10)DIGITAL SUB | |
| | CN206 | PEMC0846-010 | CONNECTOR,(1-10)DIGITAL SUB | |
| | CN207 | PEMC1101-006 | CONNECTOR,(1-6)JACK | |
| | CN301 | PU59555-4 | CONNECTOR,(1-4)EVR | |
| | CN401 | PW30702-12AAYY | WIRE,(1-3) A/C HEAD | |
| | CN402 | PEMC1101-004 | CONNECTOR,(1-4)DRUM MOTOR | |
| | CN601 | PEMC1077 | CONNECTOR,(1-8)CAP MDA | |
| | CN602 | PU61434-1-1 | CONNECTOR,(1-5)ROTARY ENCORDE | |
| | CN603 | PU60727-2 | CONNECTOR,(1-2)LOADING MOTOR | |
| | CN604 | PEMC1101-008 | CONNECTOR,(5-12)DISPLAY | |
| | CN605 | PEMC1101-005 | CONNECTOR,(1-5)DISPLAY | |
| | CN606 | PU59555-7 | CONNECTOR,(1-7) | |
| ⚠ | CN801 | PU60250-2 | CONNECTOR,(1-2)AC-IN | |
| ⚠ | CP401 | ICP-N15 | CIRCUIT PROTECTOR | |
| ⚠ | CP601 | ICP-N25 | CIRCUIT PROTECTOR | |
| ⚠ | CP851 | ICP-N20 | CIRCUIT PROTECTOR | |
| ⚠ | CP852 | ICP-N25 | CIRCUIT PROTECTOR | |
| ⚠ | CP1001 | ICP-N15 | CIRCUIT PROTECTOR | |
| ⚠ | F801 | QMF51N2-R70J1 | FUSE | T0.7A |

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## VIDEO UNIT BOARD ASSEMBLY <05>

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| PWBA | PB10903A-03 | VIDEO UNIT BOARD ASSEMBLY | |
| IC1 | JCP0054 | IC | |
| IC2 | M62353GP | IC | |
| IC3 | NJM431U-XE | IC | |
| IC4 | VC2076MP-XE | IC | |
| IC6 | XLJ93LC56A | IC | |
| | or AT93C56-10PC | IC | |
| IC7 | TC4S81F | IC | |
| Q1 | 2SA1576(QRS) | TRANSISTOR | |
| Q5 | 2SC4081(QRS) | TRANSISTOR | |
| Q6 | 2SA1576(QRS) | TRANSISTOR | |
| R2 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R5 | NRSA63J-182N | RESISTOR | 1.8kΩ,1/16W |
| R6 | NRSA63J-472N | RESISTOR | 4.7kΩ,1/16W |
| R7 | NRSA63J-272N | RESISTOR | 2.7kΩ,1/16W |
| R8 | NRSA63J-333N | RESISTOR | 33kΩ,1/16W |
| R9 | NRVA63D-822N | MF RESISTOR | 8.2kΩ,1/16W |
| R10 | NRVA63D-152N | MF RESESTOR | |
| R11 | NRSA63J-222N | RESISTOR | 2.2kΩ,1/16W |
| R12 | NRVA63D-561N | MF RESISTOR | 560Ω,1/16W |
| R13 | NRSA63J-222N | RESISTOR | 2.2kΩ,1/16W |
| R14 | NRSA63J-821N | RESISTOR | 820Ω,1/16W |
| R17 | NRSA63J-391N | RESISTOR | 390Ω,1/16W |
| R18 | NRVA63D-391N | RESISTOR | 390Ω,1/16W |
| R19 | NRVA63D-102N | MF RESISTOR | 1kΩ,1/16W |
| R22 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R23 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R24 | NRSA63J-332N | RESISTOR | 3.3kΩ,1/16W |
| R25 | NRSA63J-332N | RESISTOR | 3.3kΩ,1/16W |
| R26 | NRSA63J-151N | RESISTOR | 150Ω,1/16W |
| R27 | NRSA63J-162N | RESISTOR | 1.6kΩ,1/16W |
| R28 | NRSA63J-391N | RESISTOR | 390Ω,1/16W |
| R29 | NRSA63J-122N | RESISTOR | 1.2kΩ,1/16W |
| R30 | NRVA63D-102N | MF RESISTOR | 1kΩ,1/16W |
| R31 | NRVA63D-471N | RESISTOR | 470Ω,1/16W |
| R32 | NRVA63D-102N | MF RESISTOR | 1kΩ,1/16W |
| R33 | NRVA63D-152N | MF RESESTOR | |
| R34 | NRVA63D-332N | MF RESISTOR | 3.3kΩ,1/16W |
| R35 | NRVA63D-332N | MF RESISTOR | 3.3kΩ,1/16W |
| R37 | NRSA63J-0R0N | RESISTOR | 0Ω,1/16W |
| R46 | NRSA63J-0R0N | RESISTOR | 0Ω,1/16W |
| R47 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R48 | NRVA63D-243N | RESISTOR | 24kΩ,1/16W |
| R49 | NRSA63J-0R0N | RESISTOR | 0Ω,1/16W |
| R50 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R51 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R52 | NRSA63J-0R0N | RESISTOR | 0Ω,1/16W |
| R53 | NRSA63J-0R0N | RESISTOR | 0Ω,1/16W |
| R54 | NRSA63J-0R0N | RESISTOR | 0Ω,1/16W |
| R55 | NRVA63D-272N | MF RESISTOR | 2.7kΩ,1/16W |
| R56 | NRVA63D-682N | MF RESISTOR | 6.8kΩ,1/16W |
| R57 | NRVA63D-162N | MF RESISTOR | 1.6kΩ,1/16W |
| R58 | NRVA63D-682N | MF RESISTOR | 6.8kΩ,1/16W |
| R59 | NRSA63J-0R0N | RESISTOR | 0Ω,1/16W |
| R60 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R61 | NRSA63J-0R0N | RESISTOR | 0Ω,1/16W |
| R63 | NRSA63J-103N | RESISTOR | 10kΩ,1/16W |
| R64 | NRSA63J-475N | RESISTOR | 4.7MΩ,1/16W |
| R65 | NRSA63J-0R0N | RESISTOR | 0Ω,1/16W |
| R68 | NRSA63J-0R0N | RESISTOR | 0Ω,1/16W |
| R69 | NRSA63J-101N | RESISTOR | 100Ω,1/16W |
| R73 | NRSA63J-334N | RESISTOR | 330kΩ,1/16W |
| R75 | NRSA63J-101N | RESISTOR | 100Ω,1/16W |
| R79 | NRSA63J-0R0N | RESISTOR | 0Ω,1/16W |
| R85 | NRSA63J-472N | RESISTOR | 4.7kΩ,1/16W |
| C2 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| C5 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C7 | QETC1HM-104 | E CAPACITOR | 0.1μF,50V |
| C8 | NCT08CH-680A | CAPACITOR | 68pF,50V |
| C10 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C11 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C12 | QETC1EM-106 | E CAPACITOR | 10μF,25V |
| C13 | QETC1HM-225 | E CAPACITOR | 2.2μF,50V |
| C14 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C15 | QETC1EM-475 | E CAPACITOR | 4.7μF,25V |
| C16 | NCB31EK-153A | CAPACITOR | 0.015μF,25V |
| C18 | QETC1HM-105 | E CAPACITOR | 1μF,50V |
| C19 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C20 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C21 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| C22 | NCT08CH-331A | CAPACITOR | 330pF,50V |
| C23 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| C25 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| C26 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| C27 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| C28 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C29 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C30 | NCB31EK-103A | CAPACITOR | 0.01μF,25V |
| C31 | NCT08CH-161A | CAPACITOR | 160pF,50V |
| C32 | NCS31HJ-120A | CAPACITOR | 12pF,50V |
| C33 | QETC1HM-104 | E CAPACITOR | 0.1μF,50V |
| C35 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| C36 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| C37 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| C38 | QETC1HM-104 | E CAPACITOR | 0.1μF,50V |
| C39 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| C40 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| C41 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C42 | QETC1CM-106 | E CAPACITOR | 10μF,16V |
| C43 | QCC31EK-473 | CAPACITOR | 0.047μF,25V |
| C44 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C45 | QETC1CM-226 | E CAPACITOR | 22μF,16V |
| C46 | NCS31HJ-470A | CAPACITOR | 47pF,50V |
| C47 | QETC1HM-474 | E CAPACITOR | 0.47μF,50V |
| C48 | QETC1CM-226 | E CAPACITOR | 22μF,16V |
| C49 | QETC1HM-225 | E CAPACITOR | 2.2μF,50V |
| C50 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C51 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C52 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C53 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| C54 | NCS31HJ-101A | CAPACITOR | 100pF,50V |
| C55 | NCS31HJ-101A | CAPACITOR | 100pF,50V |
| C56 | QETC1EM-475 | E CAPACITOR | 4.7μF,25V |
| C57 | NCS31HJ-301A | CAPACITOR | 300pF,50V |
| C58 | NCS31HJ-301A | CAPACITOR | 300pF,50V |
| C59 | NCS31HJ-181A | CAPACITOR | 180pF,50V |
| C60 | NCS31HJ-101A | CAPACITOR | 100pF,50V |
| C61 | NCS31HG-271A | CAPACITOR | 270pF,50V |
| C62 | NCS31HG-820A | CAPACITOR | 82pF,50V |

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | C63 | NCS31HG-221A | CAPACITOR | 220pF,50V |
| | C64 | NCS31HG-301A | CAPACITOR | 300pF,50V |
| | C65 | NCS31HG-301A | CAPACITOR | 300pF,50V |
| | C66 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| | C67 | QETC0JM-476 | E CAPACITOR | 47μF,6.3V |
| | C69 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| | C70 | QETC1HM-225 | E CAPACITOR | 2.2μF,50V |
| | C71 | QETC1HM-225 | E CAPACITOR | 2.2μF,50V |
| | C85 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| | C86 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| | C87 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| | C88 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| | C89 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| | C99 | NCF31HZ-103A | CAPACITOR | 0.01μF,50V |
| | C102 | NCB31EK-103A | CAPACITOR | 0.01μF,25V |
| | C104 | QETC1HM-224 | E CAPACITOR | 0.22μF,50V |
| | C106 | NCT08CH-121A | CAPACITOR | 120pF,50V |
| | L2 | PU48530-271K | COIL | 270μH |
| | L4 | PU48530-331K | COIL | 330μH |
| | L5 | PU48530-100J | COIL | 10μH |
| | L6 | PU48530-470J | COIL | 47μH |
| | L7 | PU48530-101K | COIL | 100μH |
| | L8 | PU48530-101K | COIL | 100μH |
| | LC1 | PELN0937 | LC TRAP | |
| | LC3 | PELN1149 | EQUALIZER | |
| | LC4 | PELN0939 | LC TRAP | |
| ⚠ | X1 | PEVB0549 | CRYSTAL RESONATOR | |
| | K1 | QRSA08J-0R0Y | RESISTOR | 0Ω,1/10W |
| | CN1 | PEMC0919-130K | PIN HEADER,(1-30)MAIN | |
| | CN2 | PEMC0919-130K | PIN HEADER,(1-30)MAIN | |

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## A/C HEAD BOARD <12>

| REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| PWBA | PB40068A | A/CTL HEAD BOARD ASSEMBLY |
| CN1 | PU60910-107 | CONNECTOR,(1-7)MAIN |

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## DEMOD BOARD ASSEMBLY <14>

| #⚠ | REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|---|
| | PWBA | PB10816B-01 | DEMOD BOARD ASSEMBLY | |
| | IC101 | UPC1872CU | IC | |
| | Q101 | DTC114TU | TRANSISTOR | |
| | Q102 | DTC114TU | TRANSISTOR | |
| | R101 | QRSA08J-154YN | RESISTOR | 150kΩ,1/10W |
| | R102 | QRSA08J-302YN | RESISTOR | 3kΩ,1/10W |
| | R103 | QRSA08J-512YN | RESISTOR | 5.1kΩ,1/10W |
| | R104 | QRSA08J-563YN | RESISTOR | 56kΩ,1/10W |
| | R105 | QRSA08J-563YN | RESISTOR | 56kΩ,1/10W |
| | R106 | QRSA08J-513YN | RESISTOR | 51kΩ,1/10W |
| | R107 | QVZ3521-473Z | V RESISTOR,SEPARATION-1 | |
| | R108 | QRSA08J-513YN | RESISTOR | 51kΩ,1/10W |
| | R109 | QVZ3521-104Z | V RESISTOR,SEPARATION-2 | |
| | R110 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| | R111 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| | R112 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| | R113 | QRSA08J-333YN | RESISTOR | 33kΩ,1/10W |
| | R114 | QRSA08J-334YN | RESISTOR | 330kΩ,1/10W |
| | R115 | QRSA08J-473YN | RESISTOR | 47kΩ,1/10W |
| | R116 | QRSA08J-473YN | RESISTOR | 47kΩ,1/10W |
| | R117 | QRSA08J-123YN | RESISTOR | 12kΩ,1/10W |
| | R118 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| | R119 | QRSA08J-122YN | RESISTOR | 1.2kΩ,1/10W |
| | R120 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| | R121 | QRSA08J-122YN | RESISTOR | 1.2kΩ,1/10W |
| | R122 | QRSA08J-333YN | RESISTOR | 33kΩ,1/10W |
| | R123 | QRSA08J-303YN | RESISTOR | 30kΩ,1/10W |
| | R124 | QVPC624-103 | V RESISTOR,FILTER | |
| | R125 | QRSA08J-393YN | RESISTOR | 39kΩ,1/10W |
| | R126 | QVPC624-223 | V RESISTOR,VCO | |
| | R127 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| | R128 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| | R129 | QRSA08J-562YN | RESISTOR | 5.6kΩ,1/10W |
| | C101 | QEK61CM-106 | E CAPACITOR | 10μF,16V |
| | C102 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C103 | QCYA1EK-473 | CAPACITOR | 0.047μF,25V |
| | C104 | QEKF1HM-474 | E CAPACITOR | 0.47μF,50V |
| | C105 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| | C106 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| | C107 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C108 | QEKF1CM-476 | E CAPACITOR | 47μF,16V |
| | C109 | QEKF1HM-105 | E CAPACITOR | 1μF,50V |
| | C110 | QEKF1HM-105 | E CAPACITOR | 1μF,50V |
| | C111 | QEE81CJ-335 | TA E CAPACITOR | |
| | C112 | QEE81CJ-106 | TA E CAPACITOR | |
| | C113 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C114 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C115 | QEKF1CM-106 | E CAPACITOR | 10μF,16V |
| | C116 | QCYA1HK-103 | CAPACITOR | 0.01μF,50V |
| | C117 | QEKF1HM-105 | E CAPACITOR | 1μF,50V |
| | C118 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| | C119 | QEKF1CM-226 | E CAPACITOR | 22μF,16V |
| | C120 | QCYA1EK-104 | CAPACITOR | 0.1μF,25V |
| | C121 | QEKF1HM-105 | E CAPACITOR | 1μF,50V |
| | C122 | QEKF1EM-475 | E CAPACITOR | 4.7μF,25V |
| | CN101 | PEMC0778-108Y | PIN HEADER,(2-9)MAIN | |

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## DISPLAY BOARD ASSEMBLY <21>

| REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|
| PWBA1 | PB10942A1 | DISPLAY BOARD ASSEMBLY,S5200U |
| | PB10942B1 | DISPLAY BOARD ASSEMBLY,S7200U |
| IC1 | UPD16312GB(P) | IC |
| | or UPD16312GB(M) | IC |
| IC2 | GP1U581X | IR DETECT UNIT |
| | or HC-377J | IR DETECT UNIT |
| D1 | RD4.7ES-T1B2 | ZENER DIODE |
| D2 | 11ES2 | DIODE |
| D21 | 1SS132Y | DIODE |
| | or 1N4148M | DIODE |
| D22 | 1SS132Y | DIODE |
| | or 1N4148M | DIODE |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| D33 | SLR-342MG3F | LE DIODE | |
| R6 | QRD161J-333 | RESISTOR | 33kΩ,1/6W |
| R7 | QRD161J-333 | RESISTOR | 33kΩ,1/6W |
| R8 | QRD161J-333 | RESISTOR | 33kΩ,1/6W |
| R9 | QRD161J-333 | RESISTOR | 33kΩ,1/6W |
| R10 | QRD161J-333 | RESISTOR | 33kΩ,1/6W |
| R11 | QRD161J-272 | RESISTOR | 2.7kΩ,1/6W |
| R12 | QRD161J-272 | RESISTOR | 2.7kΩ,1/6W |
| R13 | QRD161J-561 | RESISTOR | 560Ω,1/6W |
| R14 | QRD161J-103 | RESISTOR | 10kΩ,1/6W |
| R15 | QRD161J-513 | RESISTOR | 51kΩ,1/6W |
| R16 | QRD161J-103 | RESISTOR | 10kΩ,1/6W |
| R17 | QRD161J-331 | RESISTOR | 330Ω,1/6W |
| R20 | QRD161J-472 | RESISTOR | 4.7kΩ,1/6W |
| R21 | QRD161J-103 | RESISTOR | 10kΩ,1/6W |
| RA1 | QRB045J-333M | RESISTOR ARRAY | 33kΩ,1/8W |
| C2 | QEK61HM-106 | E CAPACITOR | 10μF,50V |
| C3 | QCC11EK-473 | CAPACITOR | 0.047μF,25V |
| C4 | QCC11EK-473 | CAPACITOR | 0.047μF,25V |
| C5 | QCBB1HJ-101 | CAPACITOR | 100pF,50V |
| C6 | QEK60JM-476 | E CAPACITOR | 47μF,6.3V |
| C8 | QCC11EJ-104 | CAPACITOR | 0.1μF,25V |
| C9 | QCSB1HJ-330 | CAPACITOR | 33pF,50V |
| C10 | QEK60JM-476 | E CAPACITOR | 47μF,6.3V |
| L1 | PU48530-101J | COIL | 100μH |
| S1 | PU60392-2-2 | TACT SWITCH,REC | |
| S2 | PU60392-2-2 | TACT SWITCH,PAUSE | |
| S3 | PU60392-2-2 | TACT SWITCH,INSERT | |
| S4 | PU60392-2-2 | TACT SWITCH,PLAY | |
| S5 | PU60392-2-2 | TACT SWITCH,A.DUB | |
| S6 | PU60392-2-2 | TACT SWITCH,STOP/EJECT | |
| FDP1 | PEDP0104-02 | FLUORESCENT DISPLAY PANEL | |
| HD1 | PQ34668 | FDP HOLDER(L) | |
| HD2 | PQ34669 | FDP HOLDER(R) | |
| HD3 | PQM30038-6 | LED HOLDER,D33 | |
| J1 | PW30101-C0AA442 | PARALLEL WIRE | |
| J2 | PW30101-60AA443 | PARALLEL WIRE | |
| CN3 | PEMC1101-105 | CONNECTOR,(1-5)MAIN | |
| CN4 | PEMC0889-013 | CONNECTOR,(1-13)JACK | |
| CN5 | PEMC1101-108 | CONNECTOR,(1-8)MAIN | |

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## REC SAFETY BOARD ASSEMBLY <32>

| | | |
|---|---|---|
| PWBA4 | PB10942A4 | REC SAFE BOARD ASSEMBLY |
| S35 | PESW0589 | PUSH SWITCH |

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## CASSETTE SW BOARD ASSEMBLY <33>

| | | |
|---|---|---|
| PWBA3 | PB10942A3 | CASS.SW BOARD ASSEMBLY |
| S36 | PU61320 | PUSH SWITCH |
| S37 | PU61320 | PUSH SWITCH |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION |
|---|---|---|

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## SWITCH/JACK BOARD ASSEMBLY <36>

| | | | |
|---|---|---|---|
| PWBA2 | PB10942A2 | SW/JACK BOARD ASSEMBLY,S5200U | |
| | PB10942B2 | SW/JACK BOARD ASSEMBLY,S7200U | |
| D23 | 1SS132Y | DIODE | |
| | or 1N4148M | DIODE | |
| D24 | 1SS132Y | DIODE | |
| | or 1N4148M | DIODE | |
| D25 | 1SS132Y | DIODE | |
| | or 1N4148M | DIODE | |
| D26 | 1SS132Y | DIODE | |
| | or 1N4148M | DIODE | |
| D31 | SLR-342VC3F | LE DIODE,POWER | |
| D32 | SLR-342DC3F | LE DIODE,DY.CNT S5200U | |
| | SLR-342MG3F | LE DIODE,DY.CNT S7200U | |
| D41 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D42 | 1SS133 | DIODE | |
| | or MA165 | DIODE | |
| D50 | 1SS132Y | DIODE,S7200U | |
| | or 1N4148M | DIODE,S7200U | |
| R18 | QRD161J-331 | RESISTOR | 330Ω,1/6W |
| R19 | QRD161J-331 | RESISTOR | 330Ω,1/6W |
| R31 | QRD161J-750 | RESISTOR | 75Ω,1/6W |
| S7 | PU60392-2-2 | TACT SWITCH,MARK | |
| S8 | PU60392-2-2 | TACT SWITCH,ERASE | |
| S9 | PU60392-2-2 | TACT SWITCH,CH + | |
| S10 | PU60392-2-2 | TACT SWITCH,CH – | |
| S11 | PU60392-2-2 | TACT SWITCH,POWER | |
| S12 | PU60392-2-2 | TACT SWITCH,D.CONTRAST | |
| S13 | PU60392-2-2 | TACT SWITCH,SP/EP | |
| S14 | PU60392-2-2 | TACT SWITCH,SELECT | |
| S15 | PU60392-2-2 | TACT SWITCH,START | |
| S16 | PU60392-2-2 | TACT SWITCH,MENU | |
| S17 | PU60392-2-2 | TACT SWITCH,S-VHS | |
| S18 | PU60392-2-2 | TACT SWITCH,TU/VIDEO | |
| S19 | PU60392-2-2 | TACT SWITCH,TIMER | |
| S20 | PU60392-2-2 | TACT SWITCH,V.STB S7200U | |
| HD1 | PQM30038-1-2 | LED HOLDER,X2 D31 D32 | |
| JA1 | PEMC1076 | PIN JACK,VIDEO | |
| JA2 | PEMC0922 | PIN JACK,AUDIO L | |
| JA3 | PEMC0922 | PIN JACK,AUDIO R | |
| CN1 | PEMC1101-106 | CONNECTOR,(1-6)MAIN | |
| CN2 | PEMC0825-013 | CONNECTOR,(1-13)DISPLAY | |

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## PRE/REC BOARD ASSEMBLY <43>

| | | |
|---|---|---|
| PWBA | PB10948C | PRE/REC BOARD ASSEMBLY,S5200U |
| | PB10948D | PRE/REC BOARD ASSEMBLY,S7200U |
| IC1 | JCP0047-WE | IC |
| IC201 | AN3380NK | IC |
| Q1 | 2SC4081(QRS) | TRANSISTOR |
| Q2 | 2SA1576(QR) | TRANSISTOR |
| Q3 | 2SC4081(QRS) | TRANSISTOR |
| Q4 | 2SC4081(QRS) | TRANSISTOR |

| #△ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| Q5 | 2SA1576(QR) | TRANSISTOR | |
| Q6 | 2SA1576(QR) | TRANSISTOR | |
| Q18 | DTC143EU | TRANSISTOR | |
| Q19 | 2SC4081(QRS) | TRANSISTOR | |
| Q20 | 2SA1576(QR) | TRANSISTOR | |
| Q21 | 2SC4081(QRS) | TRANSISTOR | |
| Q101 | 2SC4081(QRS) | TRANSISTOR | |
| Q102 | 2SC4081(QRS) | TRANSISTOR | |
| Q103 | 2SC4081(QRS) | TRANSISTOR | |
| Q104 | DTA144EU | TRANSISTOR | |
| Q105 | 2SC4081(QRS) | TRANSISTOR | |
| Q106 | DTA124ES | TRANSISTOR | |
| Q107 | DTC124EU | TRANSISTOR | |
| Q108 | DTC144WU | TRANSISTOR | |
| Q109 | DTC124EU | TRANSISTOR | |
| Q110 | 2SA1576(QR) | TRANSISTOR | |
| Q111 | 2SC4081(QRS) | TRANSISTOR | |
| Q112 | 2SA1576(QR) | TRANSISTOR | |
| Q113 | 2SC4081(QRS) | TRANSISTOR | |
| Q114 | 2SA1576(QR) | TRANSISTOR | |
| Q115 | 2SC4081(QRS) | TRANSISTOR | |
| Q116 | 2SC4081(QRS) | TRANSISTOR | |
| Q119 | 2SC4081(QRS) | TRANSISTOR | |
| Q201 | DTC124TU | TRANSISTOR | |
| Q202 | DTC124TU | TRANSISTOR | |
| Q203 | DTC124EU | TRANSISTOR | |
| Q205 | DTA114EU | TRANSISTOR | |
| Q206 | DTC114WU | TRANSISTOR | |
| Q207 | DTC124EU | TRANSISTOR,S7200U | |
| Q210 | DTC144WU | TRANSISTOR | |
| Q211 | DTA114EU | TRANSISTOR | |
| Q301 | 2SA933S(Q) | TRANSISTOR | |
| Q302 | 2SA933S(Q) | TRANSISTOR | |
| Q303 | DTC124EU | TRANSISTOR | |
| Q304 | 2SA933S(Q) | TRANSISTOR | |
| D2 | 1SS355 | DIODE | |
| D7 | 1SS355 | DIODE | |
| D101 | DAN202U | DIODE | |
| | or MA141WK | DIODE | |
| D102 | 1SS355 | DIODE | |
| D103 | DAN202U | DIODE | |
| | or MA141WK | DIODE | |
| D203 | 1SS355 | DIODE | |
| D204 | 1SS355 | DIODE | |
| R3 | QRSA08J-271YN | RESISTOR | 270Ω,1/10W |
| R4 | QRSA08J-220YN | RESISTOR | 22Ω,1/10W |
| R5 | QRSA08J-150YN | RESISTOR | 15Ω,1/10W |
| R6 | QRSA08J-271YN | RESISTOR | 270Ω,1/10W |
| R7 | QRSA08J-300YN | RESISTOR | 30Ω,1/10W |
| R8 | QRSA08J-270YN | RESISTOR | 27Ω,1/10W |
| R9 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| R10 | QRSA08J-122YN | RESISTOR | 1.2kΩ,1/10W |
| R11 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| R12 | NVP1311-153N | V RESISTOR,REC FM LEVEL | |
| R13 | QRSA08J-273YN | RESISTOR | 27kΩ,1/10W |
| R14 | QRSA08J-332YN | RESISTOR | 3.3kΩ,1/10W |
| R15 | QRSA08J-301YN | RESISTOR | 300Ω,1/10W |
| R16 | QRSA08J-151YN | RESISTOR | 150Ω,1/10W |
| R17 | QRSA08J-152YN | RESISTOR | 1.5kΩ,1/10W |
| R18 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R19 | NRVA62D-203N | RESISTOR | 20kΩ,1/16W |
| R20 | QRSA08J-821YN | RESISTOR | 820Ω,1/10W |
| R21 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R22 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R23 | QRSA08J-104YN | RESISTOR | 100kΩ,1/10W |
| R24 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R25 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R26 | QRSA08J-512YN | RESISTOR | 5.1kΩ,1/10W |
| R27 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R28 | QRSA08J-822YN | RESISTOR | 8.2kΩ,1/10W |
| R30 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R31 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R32 | QRSA08J-332YN | RESISTOR | 3.3kΩ,1/10W |
| R33 | QRSA08J-332YN | RESISTOR | 3.3kΩ,1/10W |
| R34 | QRSA08J-301YN | RESISTOR | 300Ω,1/10W |
| R35 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R36 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R44 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R48 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R63 | QRSA08J-751YN | RESISTOR | 750Ω,1/10W |
| R101 | QRSA08J-152YN | RESISTOR | 1.5kΩ,1/10W |
| R102 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R103 | QRSA08J-183YN | RESISTOR | 18kΩ,1/10W |
| R104 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| R105 | QRSA08J-183YN | RESISTOR | 18kΩ,1/10W |
| R106 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| R107 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R108 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R109 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R110 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R111 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R112 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R113 | QVPA603-222 | V RESISTOR,S-SP VIDEO EQ | |
| R114 | QVPA603-222 | V RESISTOR,S-EP VIDEO EQ | |
| R115 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R116 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R117 | QRSA08J-752YN | RESISTOR | 7.5kΩ,1/10W |
| R118 | QRSA08J-333YN | RESISTOR | 33kΩ,1/10W |
| R119 | QRSA08J-562YN | RESISTOR | 5.6kΩ,1/10W |
| R120 | QRSA08J-473YN | RESISTOR | 47kΩ,1/10W |
| R121 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R122 | QRSA08J-821YN | RESISTOR | 820Ω,1/10W |
| R123 | QRSA08J-821YN | RESISTOR | 820Ω,1/10W |
| R124 | QRSA08J-822YN | RESISTOR | 8.2kΩ,1/10W |
| R125 | QRSA08J-333YN | RESISTOR | 33kΩ,1/10W |
| R126 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R127 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R128 | QRSA08J-471YN | RESISTOR | 470Ω,1/10W |
| R129 | QRSA08J-511YN | RESISTOR | 510Ω,1/10W |
| R130 | QRSA08J-103YN | RESISTOR | 10kΩ,1/10W |
| R131 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R132 | QRSA08J-273YN | RESISTOR | 27kΩ,1/10W |
| R133 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| R134 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R135 | QRSA08J-152YN | RESISTOR | 1.5kΩ,1/10W |
| R136 | QRSA08J-561YN | RESISTOR | 560Ω,1/10W |
| R137 | QRSA08J-331YN | RESISTOR | 330Ω,1/10W |
| R138 | QRSA08J-822YN | RESISTOR | 8.2kΩ,1/10W |
| R139 | QRSA08J-391YN | RESISTOR | 390Ω,1/10W |
| R140 | QRSA08J-302YN | RESISTOR | 3kΩ,1/10W |
| R141 | QRSA08J-562YN | RESISTOR | 5.6kΩ,1/10W |
| R142 | QRSA08J-392YN | RESISTOR | 3.9kΩ,1/10W |
| R151 | QRD161J-102 | RESISTOR | 1kΩ,1/6W |
| R201 | QRSA08J-273YN | RESISTOR | 27kΩ,1/10W |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| R202 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R203 | QRSA08J-101YN | RESISTOR | 100Ω,1/10W |
| R204 | QRSA08J-274YN | RESISTOR | 270kΩ,1/10W |
| R205 | QRSA08J-102YN | RESISTOR | 1kΩ,1/10W |
| R209 | QRSA08J-332YN | RESISTOR | 3.3kΩ,1/10W |
| R214 | QRSA08J-560YN | RESISTOR | 56Ω,1/10W |
| R215 | QRSA08J-560YN | RESISTOR | 56Ω,1/10W |
| R216 | QVPA603-331Z | V RESISTOR,AUDIO REC FM LEVEL | |
| R217 | QRSA08J-153YN | RESISTOR | 15kΩ,1/10W |
| R218 | QRSA08J-332YN | RESISTOR | 3.3kΩ,1/10W |
| R219 | QRSA08J-222YN | RESISTOR | 2.2kΩ,1/10W |
| R220 | QRSA08J-332YN | RESISTOR,S7200U | 3.3kΩ,1/10W |
| R301 | QRSA08J-221YN | RESISTOR | 220Ω,1/10W |
| R302 | QRSA08J-821YN | RESISTOR | 820Ω,1/10W |
| R303 | QRSA08J-681YN | RESISTOR | 680Ω,1/10W |
| R304 | QRSA08J-473YN | RESISTOR | 47kΩ,1/10W |
| R305 | QRSA08J-683YN | RESISTOR | 68kΩ,1/10W |
| R306 | QRSA08J-393YN | RESISTOR | 39kΩ,1/10W |
| R307 | QRSA08J-472YN | RESISTOR | 4.7kΩ,1/10W |
| R308 | QRSA08J-473YN | RESISTOR | 47kΩ,1/10W |
| C1 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C2 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C3 | QEK60JM-107 | E CAPACITOR | 100µF,6.3V |
| C4 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C5 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C12 | QCTA1CH-100 | CAPACITOR | 10pF,16V |
| C13 | QCFA1EZ-104 | CAPACITOR | 0.1µF,25V |
| C14 | QCYA1HK-473 | CAPACITOR | 0.047µF,50V |
| C15 | QCYA1HK-223 | CAPACITOR | 0.022µF,50V |
| C18 | QCYA1HK-223 | CAPACITOR | 0.022µF,50V |
| C19 | QCYA1HK-473 | CAPACITOR | 0.047µF,50V |
| C20 | QCTA1CH-100 | CAPACITOR | 10pF,16V |
| C21 | QCFA1EZ-104 | CAPACITOR | 0.1µF,25V |
| C22 | QCFA1EZ-104 | CAPACITOR | 0.1µF,25V |
| C23 | QCFA1EZ-104 | CAPACITOR | 0.1µF,25V |
| C26 | QCFA1EZ-104 | CAPACITOR | 0.1µF,25V |
| C27 | QCFA1EZ-104 | CAPACITOR | 0.1µF,25V |
| C28 | QEK60JM-476 | E CAPACITOR | 47µF,6.3V |
| C29 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C30 | QCFA1EZ-104 | CAPACITOR | 0.1µF,25V |
| C31 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C32 | QCYA1HJ-222 | CAPACITOR | 0.0022µF,50V |
| C33 | QCYA1HJ-222 | CAPACITOR | 0.0022µF,50V |
| C34 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C35 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C36 | QCFA1CZ-105 | CAPACITOR | 1µF,16V |
| C37 | QCSA1HJ-391 | CAPACITOR | 390pF,50V |
| C39 | QCSA1HJ-151 | CAPACITOR | 150pF,50V |
| C40 | QCFA1CZ-474 | CAPACITOR | 0.47µF,16V |
| C41 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C42 | QEKF0JM-476 | E CAPACITOR | 47µF,6.3V |
| C43 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C44 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C45 | QEKF1CM-476 | E CAPACITOR | 47µF,16V |
| C46 | QCSA1HJ-331 | CAPACITOR | 330pF,50V |
| C47 | QCSA1HJ-101 | CAPACITOR | 100pF,50V |
| C49 | QCSA1HJ-121 | CAPACITOR | 120pF,50V |
| C56 | QCSA1HJ-390 | CAPACITOR | 39pF,50V |
| C59 | QCSA1HJ-361 | CAPACITOR | 360pF,50V |
| C68 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C69 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C70 | QCTA1CH-151 | CAPACITOR | 150pF,16V |
| C74 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C101 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C102 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C103 | QCSA1HJ-101 | CAPACITOR | 100pF,50V |
| C104 | QCTA1CH-101 | CAPACITOR | 100pF,16V |
| C105 | QCSA1HJ-680 | CAPACITOR | 68pF,50V |
| C106 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C107 | QCSA1HJ-390 | CAPACITOR | 39pF,50V |
| C108 | QCSA1HJ-390 | CAPACITOR | 39pF,50V |
| C109 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C110 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C111 | QCSA1HJ-330 | CAPACITOR | 33pF,50V |
| C112 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C113 | QCSA1HJ-470 | CAPACITOR | 47pF,50V |
| C114 | QCSA1HJ-150 | CAPACITOR | 15pF,50V |
| C115 | QCSA1HJ-330 | CAPACITOR | 33pF,50V |
| C116 | QCSA1HJ-180 | CAPACITOR | 18pF,50V |
| C117 | QCSA1HJ-180 | CAPACITOR | 18pF,50V |
| C118 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C119 | QCSA1HJ-220 | CAPACITOR | 22pF,50V |
| C120 | QCSA1HJ-150 | CAPACITOR | 15pF,50V |
| C122 | QCSA1HJ-180 | CAPACITOR | 18pF,50V |
| C123 | QCSA1HJ-390 | CAPACITOR | 39pF,50V |
| C124 | QCSA1HJ-150 | CAPACITOR | 15pF,50V |
| C125 | QCSA1HJ-820 | CAPACITOR | 82pF,50V |
| C126 | QCSA1HJ-120 | CAPACITOR | 12pF,50V |
| C127 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C128 | QEK61CM-476 | E CAPACITOR | 47µF,16V |
| C129 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C133 | QCFA1HZ-103 | CAPACITOR | 0.01µF,50V |
| C201 | QCFA1EZ-104 | CAPACITOR | 0.1µF,25V |
| C202 | QCSA1HJ-391 | CAPACITOR | 390pF,50V |
| C203 | QCSA1HJ-561 | CAPACITOR | 560pF,50V |
| C204 | QCSA1HJ-102 | CAPACITOR | 0.001µF,50V |
| C205 | QCSA1HJ-561 | CAPACITOR | 560pF,50V |
| C206 | QCSA1HJ-102 | CAPACITOR | 0.001µF,50V |
| C207 | QCFA1CZ-224 | CAPACITOR | 0.22µF,16V |
| C208 | QCSA1HJ-391 | CAPACITOR | 390pF,50V |
| C209 | QEK60JM-107 | E CAPACITOR | 100µF,6.3V |
| C210 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C211 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C213 | QCTA1CH-331 | CAPACITOR | 330pF,16V |
| C214 | QCSA1HJ-330 | CAPACITOR | 33pF,50V |
| C216 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C218 | QCSA1HJ-102 | CAPACITOR | 0.001µF,50V |
| C219 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C220 | QEK61AM-476 | E CAPACITOR | 47µF,10V |
| C221 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| C224 | QCFA1CZ-224 | CAPACITOR | 0.22µF,16V |
| C225 | QCYA1HK-103 | CAPACITOR,S7200U | 0.01µF,50V |
| C226 | QCTA1CH-101 | CAPACITOR | 100pF,16V |
| C301 | QCYA1HK-223 | CAPACITOR | 0.022µF,50V |
| C302 | QCTA1CH-151 | CAPACITOR | 150pF,16V |
| C303 | QCTA1CH-180 | CAPACITOR | 18pF,16V |
| C304 | QCTA1CH-220 | CAPACITOR | 22pF,16V |
| C305 | QCTA1CH-102 | CAPACITOR | 0.001µF,16V |
| C306 | QCTA1CH-220 | CAPACITOR | 22pF,16V |
| C307 | QEKF1CM-106 | E CAPACITOR | 10µF,16V |
| C308 | QCYA1HK-103 | CAPACITOR | 0.01µF,50V |
| L1 | PELN0975-101JZ | COIL | 100µH |
| L2 | PELN0975-101JZ | COIL | 100µH |
| L3 | PU59988-151JY | COIL | 150µH |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| L4 | PU59988-221J | COIL | 220μH |
| L5 | PELN0975-101JZ | COIL | 100μH |
| L7 | PU59988-180J | COIL | 18μH |
| L12 | PELN0975-101JZ | COIL | 100μH |
| L101 | PU59988-560JL | COIL | 56μH |
| L102 | PU59988-150J | COIL | 15μH |
| L103 | PU59988-270J | COIL | 27μH |
| L104 | PU59988-270J | COIL | 27μH |
| L105 | PU59988-560J | COIL | 56μH |
| L106 | PU59988-220JY | COIL | 22μH |
| L107 | PU59988-390J | COIL | 39μH |
| L108 | PU59988-221J | COIL | 220μH |
| L109 | PU59988-100J | COIL | 10μH |
| L112 | PELN0975-101JZ | COIL | 100μH |
| L201 | PELN0975-101JZ | COIL | 100μH |
| L202 | PELN0530-221JZ | COIL | 220μH |
| L301 | PU59988-150J | COIL | 15μH |
| L302 | PELN0975-101JZ | COIL | 100μH |
| SLD1 | PQ21805 | SHIELD FLAME | |
| CN1 | PU59973-11 | CONNECTOR,(1-11)U.DRUM | |
| CN2 | PEMC1056-114 | CONNECTOR,(1-14)MAIN | |
| CN3 | PEMC1056-113 | CONNECTOR,(2-14)MAIN | |

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## DIGITAL SUB BOARD ASSEMBLY <49>

| | | | |
|---|---|---|---|
| PWBA5 | PB10942A5 | DIGITAL SUB BOARD ASSEMBLY | |
| CN101 | PEMC0723-010 | CONNECTOR,(1-10)MAIN | |
| CN102 | PEMC0723-010 | CONNECTOR,(1-10)MAIN | |

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## Y/C SEPA BOARD ASSEMBLY <89>

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| PWBA | PB20664A | Y/C SEPARATION BOARD ASSEMBLY | |
| IC1 | NJM2240M | IC | |
| IC2 | JCP0043 | IC | |
| Q1 | 2SC4081(QRS) | TRANSISTOR | |
| Q2 | 2SA1576(QRS) | TRANSISTOR | |
| Q3 | 2SC4081(QRS) | TRANSISTOR | |
| Q4 | 2SA1576(QRS) | TRANSISTOR | |
| Q5 | 2SC4081(QRS) | TRANSISTOR | |
| Q6 | 2SA1576(QRS) | TRANSISTOR | |
| Q7 | 2SC4081(QRS) | TRANSISTOR | |
| Q8 | 2SC4081(QRS) | TRANSISTOR | |
| Q9 | 2SC4081(QRS) | TRANSISTOR | |
| Q10 | 2SC3932(ST) | TRANSISTOR | |
| Q11 | 2SC4081(QRS) | TRANSISTOR | |
| Q12 | 2SC4081(QRS) | TRANSISTOR | |
| Q13 | 2SC4081(QRS) | TRANSISTOR | |
| Q14 | 2SC3932(ST) | TRANSISTOR | |
| Q15 | 2SA1576(QRS) | TRANSISTOR | |
| D1 | DAP202U | DIODE | |
| R1 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R2 | NRSA63J-471N | RESISTOR | 470Ω,1/16W |
| R3 | NRSA63J-361N | RESISTOR | 360Ω,1/16W |
| R4 | NRSA63G-432N | RESISTOR | 4.3kΩ,1/16W |
| R5 | NRSA63J-271N | RESISTOR | 270Ω,1/16W |
| R6 | NRSA63J-271N | RESISTOR | 270Ω,1/16W |
| R7 | NRSA63J-271N | RESISTOR | 270Ω,1/16W |
| R8 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R9 | NRSA63J-473N | RESISTOR | 47kΩ,1/16W |
| R10 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R11 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R12 | NRSA63J-222N | RESISTOR | 2.2kΩ,1/16W |
| R13 | NRSA63J-182N | RESISTOR | 1.8kΩ,1/16W |
| R14 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R15 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R16 | NRSA63J-222N | RESISTOR | 2.2kΩ,1/16W |
| R17 | NRSA63J-681N | RESISTOR | 680Ω,1/16W |
| R18 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R19 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R21 | NRSA63J-222N | RESISTOR | 2.2kΩ,1/16W |
| R22 | NRSA63J-681N | RESISTOR | 680Ω,1/16W |
| R23 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R24 | NRSA63J-222N | RESISTOR | 2.2kΩ,1/16W |
| R25 | NRSA63J-132N | RESISTOR | 1.3kΩ,1/16W |
| R26 | NRSA63J-472N | RESISTOR | 4.7kΩ,1/16W |
| R27 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R28 | NRSA63J-361N | RESISTOR | 360Ω,1/16W |
| R29 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R30 | NRSA63J-223N | RESISTOR | 22kΩ,1/16W |
| R31 | NRSA63J-223N | RESISTOR | 22kΩ,1/16W |
| R32 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R33 | NRSA63J-222N | RESISTOR | 2.2kΩ,1/16W |
| R34 | NRSA63J-222N | RESISTOR | 2.2kΩ,1/16W |
| R35 | NRSA63J-472N | RESISTOR | 4.7kΩ,1/16W |
| R36 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R37 | NRSA63J-361N | RESISTOR | 360Ω,1/16W |
| R38 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R39 | NRSA63J-101N | RESISTOR | 100Ω,1/16W |
| R40 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R41 | NRSA63J-222N | RESISTOR | 2.2kΩ,1/16W |
| R42 | NRSA63J-331N | RESISTOR | 330Ω,1/16W |
| R43 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R44 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R45 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R46 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R47 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R48 | NRSA63J-102N | RESISTOR | 1kΩ,1/16W |
| R54 | NRSA63J-103N | RESISTOR | 10kΩ,1/16W |
| R63 | NRSA63J-222N | RESISTOR | 2.2kΩ,1/16W |
| R67 | NRSA63J-153N | RESISTOR | 15kΩ,1/16W |
| R68 | NVP1311-223N | V RESISTOR,DIGITAL I/O LEVEL | |
| R69 | NRSA63J-562N | RESISTOR | 5.6kΩ,1/16W |
| R70 | NRSA63J-562N | RESISTOR | 5.6kΩ,1/16W |
| R71 | NRSA63J-562N | RESISTOR | 5.6kΩ,1/16W |
| C1 | NCS31HJ-120A | CAPACITOR | 12pF,50V |
| C2 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C3 | QEK60JM-107 | E CAPACITOR | 100μF,6.3V |
| C4 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C5 | QEK61EM-475 | E CAPACITOR | 4.7μF,25V |
| C6 | NCB31HK-102A | CAPACITOR | 0.001μF,50V |
| C7 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C8 | NCT08CH-6R0A | CAPACITOR | 6pF,50V |
| C9 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C10 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |

| #⚠ REF No. | PART No. | PART NAME, DESCRIPTION | |
|---|---|---|---|
| C11 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C12 | QEK60JM-337 | E CAPACITOR | 330μF,6.3V |
| C13 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C14 | QEK60JM-107 | E CAPACITOR | 100μF,6.3V |
| C15 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C16 | QEK60JM-107 | E CAPACITOR | 100μF,6.3V |
| C17 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C18 | QEK60JM-107 | E CAPACITOR | 100μF,6.3V |
| C19 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C20 | QEK60JM-107 | E CAPACITOR | 100μF,6.3V |
| C21 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C22 | QEK60JM-337 | E CAPACITOR | 330μF,6.3V |
| C24 | QEK60JM-476 | E CAPACITOR | 47μF,6.3V |
| C25 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C26 | QEK61HM-105 | E CAPACITOR | 1μF,50V |
| C27 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C28 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C29 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C30 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C31 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C32 | QEK60JM-476 | E CAPACITOR | 47μF,6.3V |
| C33 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C34 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C35 | QEK60JM-476 | E CAPACITOR | 47μF,6.3V |
| C36 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C37 | QEK61EM-335 | E CAPACITOR | 3.3μF,25V |
| C38 | QEK60JM-476 | E CAPACITOR | 47μF,6.3V |
| C39 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C40 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C41 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C42 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C43 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C44 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C45 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C46 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C47 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C48 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C56 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C64 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C69 | NCS31HJ-470A | CAPACITOR | 47pF,50V |
| C70 | NCS31HJ-470A | CAPACITOR | 47pF,50V |
| C71 | NCS31HJ-470A | CAPACITOR | 47pF,50V |
| C72 | NCS31HJ-470A | CAPACITOR | 47pF,50V |
| C73 | NCS31HJ-470A | CAPACITOR | 47pF,50V |
| C74 | NCS31HJ-470A | CAPACITOR | 47pF,50V |
| C75 | NCS31HJ-470A | CAPACITOR | 47pF,50V |
| C76 | NCS31HJ-470A | CAPACITOR | 47pF,50V |
| C77 | NCS31HJ-470A | CAPACITOR | 47pF,50V |
| C78 | NCS31HJ-470A | CAPACITOR | 47pF,50V |
| C79 | NCS31HJ-470A | CAPACITOR | 47pF,50V |
| C82 | NCB31HK-103A | CAPACITOR | 0.01μF,50V |
| C83 | QEK60JM-476 | E CAPACITOR | 47μF,6.3V |
| C84 | NCF31EZ-104A | CAPACITOR | 0.1μF,25V |
| C89 | QEK61CM-106 | E CAPACITOR | 10μF,16V |
| C91 | QEK61HM-474 | E CAPACITOR | 0.47μF,50V |
| C92 | QEK61HM-474 | E CAPACITOR | 0.47μF,50V |
| L1 | PU48530-100J | COIL | 10μH |
| L2 | PU48530-101K | COIL | 100μH |
| L3 | PU59153-101K | COIL | 100μH |
| L4 | PU59153-101K | COIL | 100μH |
| L5 | PU48530-101K | COIL | 100μH |
| L6 | PU48530-101K | COIL | 100μH |
| L7 | PU48530-101K | COIL | 100μH |
| L8 | PU59153-101K | COIL | 100μH |
| L9 | PU48530-101K | COIL | 100μH |
| L10 | PU48530-101K | COIL | 100μH |
| LPF1 | PELN1062-S | LOW PASS FILTER | |
| LPF2 | PELN1062-S | LOW PASS FILTER | |
| LPF3 | PELN1062-S | LOW PASS FILTER | |
| LPF4 | PELN1061-S | LOW PASS FILTER | |
| LPF5 | PELN1061-S | LOW PASS FILTER | |
| LC1 | PU59736-102 | N FILTER | |
| LC2 | PU59736-331 | N FILTER | |
| SLD1 | PQ34851-1-1 | SHIELD FRAME | |
| SLD2 | PQ34852-1-2 | SHIELD COVER,X2 | |
| CN1 | PEMC0712-109 | PIN HEADER,(1-9)DIGITAL SUB | |
| CN2 | PEMC0712-110 | PIN HEADER,(3-12)DIGITAL SUB | |

# SECTION 6
# TECHNICAL INFORMATION

## 6.1 SYSCON CIRCUIT

### 6.1.1 Syscon CPU pin function (IC601) 1/2

| PIN NO | LABEL | IN/OUT | NOTE |
|---|---|---|---|
| 1 | S. CURVE | IN | TUNING CHECK |
| 2 | AVRGFM | IN | AUTO TRACING DATA(AVERAGE VOLTAGE OF PB FM LEVEL) INPUT |
| 3 | WA-DET | IN | NC |
| 4 | 6. 5H DET | IN | PB SWITCHING POINT ADJUST PULSE |
| 5 | AVSS | – | GND |
| 6 | TEST | – | GND |
| 7 | X2 | – | TIMER CLOCK(32. 768KHz) |
| 8 | X1 | – | TIMER CLOCK(32. 768KHz) |
| 9 | VSS | – | GND |
| 10 | OSC1 | IN | SYSTEM CLOCK(10MHz) |
| 11 | OSC2 | OUT | SYSTEM CLOCK(10MHz) |
| 12 | RESET | IN | RESET AT CONNECT VCR TO AC |
| 13 | (NMI) | – | NC |
| 14 | FRONT(H) | OUT | FRONT A/V TERMINAL INPUT MODE: H |
| 15 | EDTV2(H) | IN | NC |
| 16 | TRICK(H) | OUT | SPECIAL PB(SLOW/STILL):H |
| 17 | V. C. CS | OUT | VIDEO CPU CHIP ENABLE |
| 18 | V. S. RESET | OUT | VIDEO CPU RESET |
| 19 | S. SENS | IN | LEADER TAPE DETECT(DETECT ON:L) |
| 20 | E. SENS | IN | TRAILER TAPE DETECT(DETECT ON:L) |
| 21 | P. MUTE(H) | OUT | PICTURE MUTE CONTROL(MUTE ON:H) |
| 22 | TU FG | IN | TAKE-UP REEL ROTATION DET/TAPE REMAIN |
| 23 | SUP FG | IN | SUPPLY REEL ROTATION DET/TAPE REMAIN |
| 24 | SP(L) | OUT | SP MODE:L |
| 25 | STILL | OUT | JOG/SHUTTLE SWITCH |
| 26 | JSB | IN | JOG DIAL PULSE INPUT(B) |
| 27 | JSA | IN | JOG DIAL PULSE INPUT(A) |
| 28 | SERVO | OUT | CAPSTAN MOTOR CONTROL(SERVO:L/SYSCON:H) |
| 29 | LCM1 | OUT | LOADING MOTOR DRIVE(1) |
| 30 | LCM2 | OUT | LOADING MOTOR DRIVE(2) |
| 31 | H SEL | OUT | HEAD SELECT CONTROL (SP:L/LP:M/EP:H) |
| 32 | A/M/S | OUT | PRE/REC CIRCUIT CONTROL(AUTO:M/MANUAL:H/S&S:L) |
| 33 | REC ST(H) | OUT | REC START:H |
| 34 | H. RECST(L) | OUT | HiFi AUDIO REC START:L |
| 35 | FLY ST(H) | OUT | FLYING ERASE HEAD CONTROL(FE ON:H) |
| 36 | CBOXCTL | OUT | CABLE BOX ON/OFF CTL |
| 37 | V. REC(H) | OUT | VIDEO REC MODE:H |
| 38 | A. MUTE(H) | OUT | AUDIO MUTE CONTROL(MUTE ON:H) |
| 39 | TM CLK | OUT | SERIAL DATA SHIFT CLOCK OUTPUT |
| 40 | TU DATA | OUT | TUNING CONTROL SERIAL DATA OUTPUT |

Table 6-1-1 SYSCON CPU pin function (1/2)

### 6.1.2 Syscon CPU pin function (IC601) 2/2

| PIN NO | LABEL | IN/OUT | NOTE |
|---|---|---|---|
| 41 | SYNC. DET | IN | SYNC DETECT (NO SYNC:H) |
| 42 | S-DATA | OUT | SERVO IC CONTROL DATA |
| 43 | LOCK DET | OUT | TUNING LOCK CHECK |
| 44 | T. MUTE (H) | IN | TUNER MUTE CONTROL (MUTE ON:H) |
| 45 | VPCTL | OUT | V. PULSE ADDITION TIMING CONTROL |
| 46 | PAUSE (L) | OUT | CAPSTAN MOTOR CONTROL (PAUSE:L) |
| 47 | CAP REV | OUT | CAPSTAN MOTOR CONTROL (FWD:H/REV:L) |
| 48 | RAE OUT | OUT | REMOTE PAUSE CONTROL OUTPUT |
| 49 | STATUS | OUT | N C |
| 50 | RC IN | IN | REMOTE CONTROL DATA INPUT |
| 51 | COMPU | IN | AV COMPULINK MODE |
| 52 | CTL C/D | IN | CTL PULSE INPUT (MODE DETECT/BLANK PORTION DET) |
| 53 | PROTECT | IN | SWD5V/12V DETECT |
| 54 | I. DATA | OUT | EXPANNDER IC (IC608) SERIAL DATA |
| 55 | I. CLK | OUT | EXPANNDER IC (IC608) TRANSFER CLOCK |
| 56 | CSB | OUT | ON SCREEN IC CHIP SELECT |
| 57 | S-OUT | OUT | ON SCREEN CONTROL DATA |
| 58 | S-IN | IN | ON SCREEN/FDP CONTROL DATA |
| 59 | S-CLK | OUT | DATA TRANSFER CLOCK |
| 60 | H DATA | OUT | VIDEO IC CONTROL DATA |
| 61 | STB | OUT | CLOCK OUTPUT PERMISSION |
| 62 | H CLK | OUT | VIDEO IC DATA TRANSFER CLOCK |
| 63 | VCC | - | SYSTEM POWER |
| 64 | M. DATA | OUT | MEMORY IC DATA |
| 65 | E. DATA | OUT | EXPANNDER IC (IC607) DATA |
| 66 | TU-CE | OUT | TUNER UNIT CHIP ENABLE |
| 67 | CTL CLOCK | IN | INDEX CONTROL |
| 68 | M-CE | OUT | MEMORY IC CHIP ENABLE |
| 69 | CAP FG | IN | TAPE SPEED DETECT/BACK SPACE COUNT |
| 70 | DUTY I/O | IN/OUT | IN/OUT INDEX DATA CONTROL |
| 71 | D. FF | IN | DRUM ROTATION DETECT/REC TIMING CONTROL |
| 72 | AVCC | - | SYSTEM POWER (for ANALOG) |
| 73 | REC CTL. V | OUT | AUDIO REC LEVEL CONTROL VOLTAGE |
| 74 | P. DOWN | IN | POWER DOWN DETECT (POWER DOWN:H → L) |
| 75 | DRUM V | OUT | DRUM MOTOR CONTROL |
| 76 | CAP V | OUT | CAPSTAN MOTOR CONTROL |
| 77 | D. V. DET | IN | DRUM DRIVE VOLTAGE DETECT |
| 78 | TU-LED | IN | TUNER LED CONTROL |
| 79 | A. LVL (L) | IN | AUDIO INDICATOR LEVEL INPUT (Lch) |
| 80 | A. LEV (R) | IN | AUDIO INDICATOR LEVEL INPUT (Rch) |

Table 6-1-2 SYSCON CPU pin function (2/2)